JANUARY 4, 1960

PURCHASING

The Methods and News Magazine for Industrial Buyers

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new directions in purchasing

also: martin gainsbrugh on "the 1960 boom"

A CONOVER-MAST PUBLICATION SEVENTY-FIVE CENTS

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Wherever your customers buy ALVANIA...

Its performance and name are the same around the world

Other Outstanding Shell Industrial Lubricants

Shell Tellus Oils—for hydraulic systems

Shell Talona R Oil 40—anti-wear crankcase oil for diesel locomotives

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Alvania Grease also has an outstanding performance record on the toughest anti-friction bearing grease applications. It is ideal for wet, humid applications because it is inhibited to prevent water corrosion. It gives good lubrication under conditions which normally spell trouble.

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SHELL ALVANIA GREASE

the truly multi-purpose lubricant

SHELL

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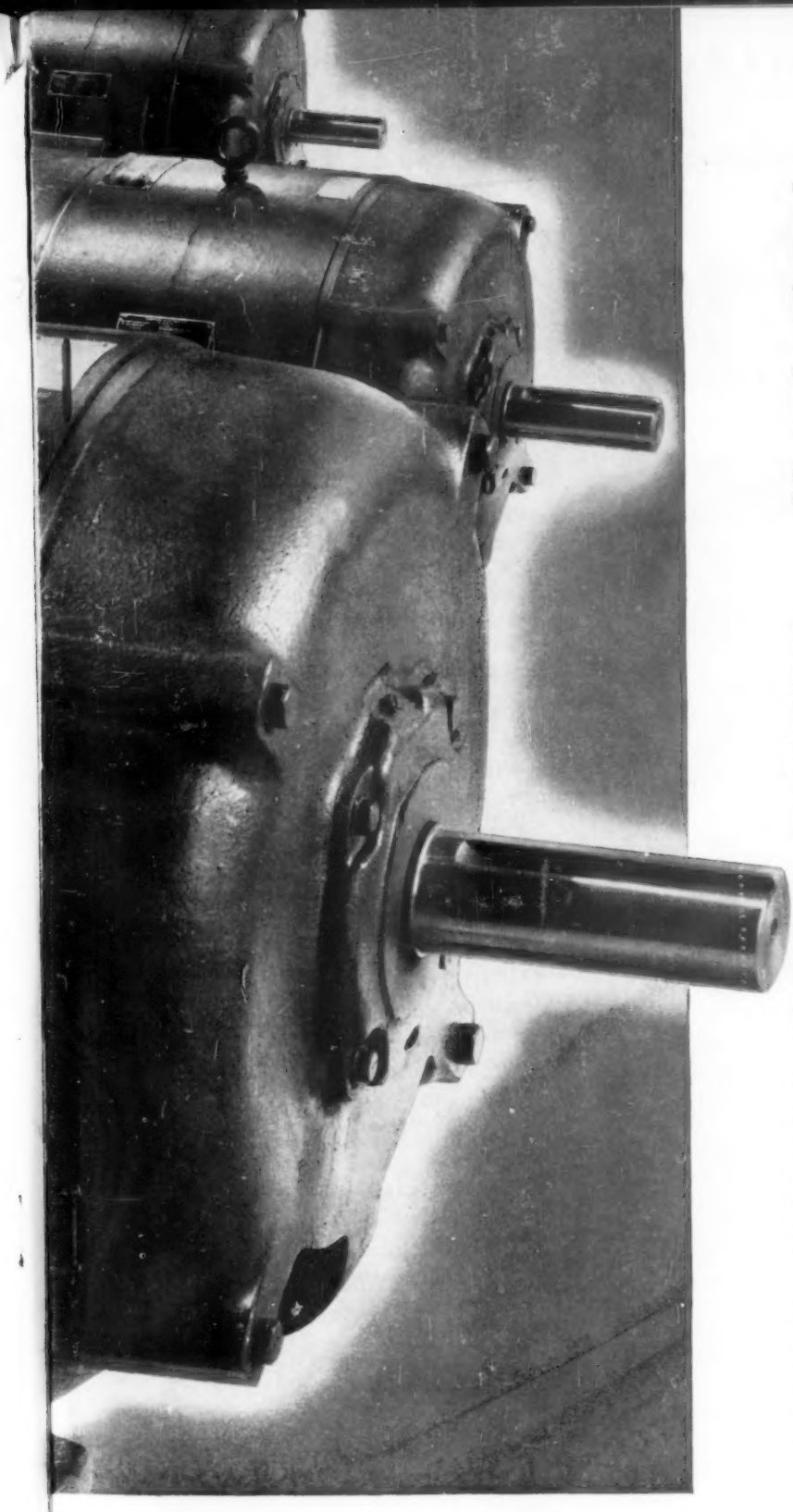

1960
16,450,000 horsepower
1965
26,000,000 horsepower

In the next five years demand by industry for motors to drive air moving equipment is going to increase about 60% . . . from 16,450,000 horsepower in 1960 to 26,000,000 horsepower in 1965. Other needs are rising even faster. Careful matching of motor to equipment will assure minimum shutdowns for repairs and maintenance. Century Electric application engineers can help you get that right motor by selecting from among the over 10,000 types Century makes.

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CENTURY ELECTRIC COMPANY

St. Louis 3, Missouri *Offices and Stock Points in Principal Cities*

Century

59-15A

It's a personal letter... but we'd like everyone to know how we feel about **STEEL SERVICE CENTERS**

STEEL SERVICE CENTER INSTITUTE

Bethlehem Steel Company
(INCORPORATED)

J. V. HONEYCUTT
VICE PRESIDENT

Bethlehem, Pa.

December 3, 1959

Mr. Robert G. Welch
Executive Vice President
Steel Service Center Institute
540 Terminal Tower
Cleveland 13, Ohio

Dear Bob:

As you well know, I have made a practice for years of keeping in close contact with your Association and of following with great interest the part played by my many friends in the various Steel Service Centers who comprise your membership.

Frankly, other than in wars, I don't know of any period where the results of their foresight, investment, and other policies have been of more benefit to our economy and our people than during the present critical steel situation. Many times I've had to listen to theorists in high places argue about the value of these Service Centers (and you know where!), but there could be no more conclusive proof than to look at the broad list of companies helped by the Steel Service Centers all over the country to continue their operations, thereby employing many people which they otherwise couldn't have done during recent weeks.

Today, it is impossible for any one to foresee the ultimate solution to our present problem, but one thing of which I am sure is that your membership has again deserved the spotlight focused on the contributions they have made to the welfare of our country and on the importance of their role in the steel business. This should be very gratifying to you and to each of them, as I can assure you it is to me.

Best personal regards.

Yours sincerely,

J. V. Honeycutt
Vice President

JVH:ds

BETHLEHEM STEEL

Now you can get standard sizes in C/R End Face Seals!

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- Size range table on mating rings.
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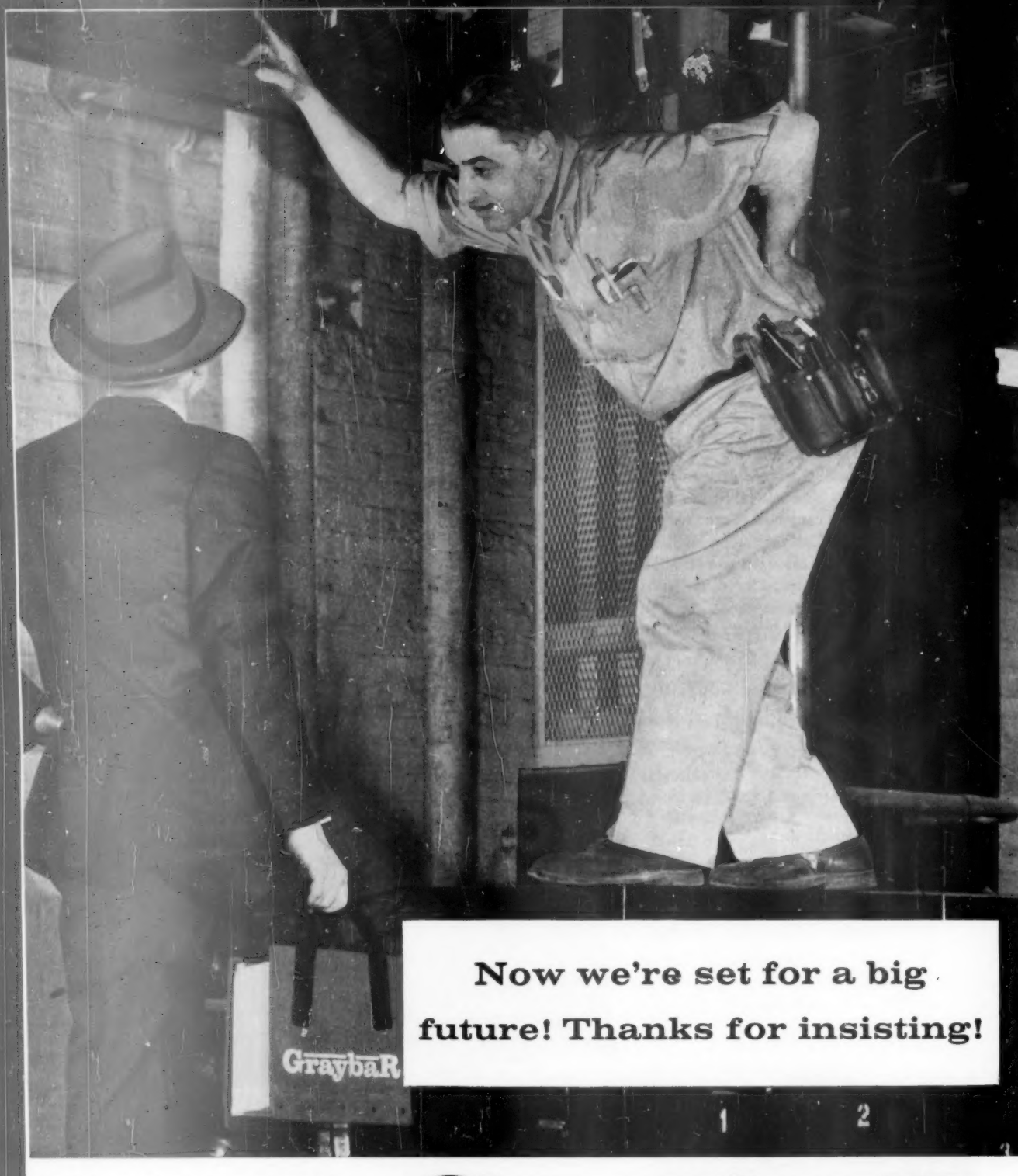

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The recommendation he makes comes from experience with countless kinds of *power distribution equipment*, motors, controls, wiring and lighting supplies.

Call Graybar for *impartial recommendations* . . . and able, *in-the-plant help*. We'll work with you or your electrical contractor. 95

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PURCHASING

The Methods and News Magazine For Industrial Buyers

JANUARY 4, 1960
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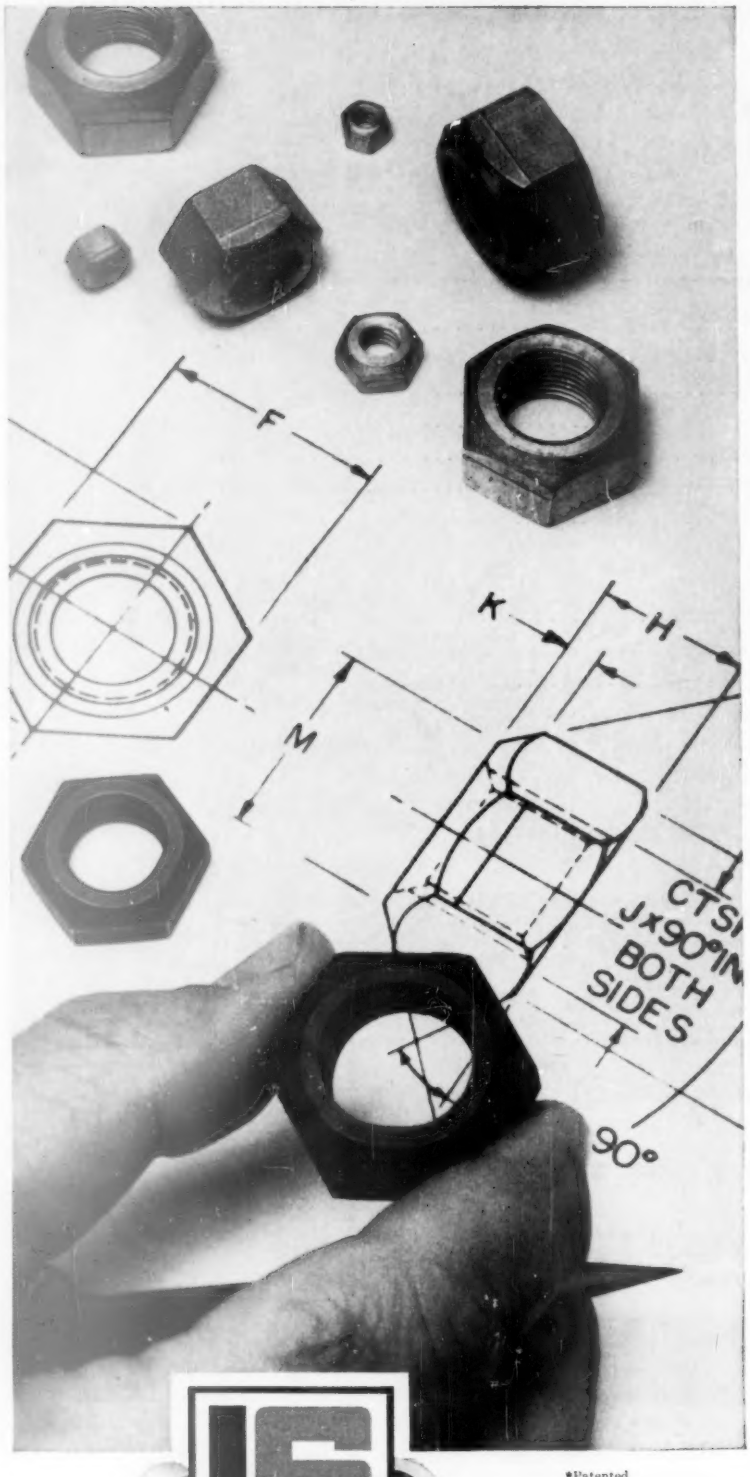

New-style Stover lock-nuts*

draw up 33% tighter to increase squeak-rattle resistance

Car and tractor makers alone used about 80 million new-style Stover Lock Nuts in 1959. Reasons: savings in assembly, savings via improved squeak-rattle resistance in suspensions, steering linkage, chassis, engines, bodies.

You save in assembly: The new Stover needs only about ¾ the tightening torque to produce the same clamping force in bolts as produced by comparable standard fasteners and competitive lock nuts. Many companies are cashing in on this lower torque requirement by using air stall drivers, both single and multi-spindle. They're handy to use, stingy on air, economical to buy and maintain.

You save after the sale: Using your present drivers and air pressures, the new Stover Lock Nuts will draw up 33% tighter than comparable standard fasteners and competitive lock nuts—a whopping extra margin in squeak-rattle resistance and safe operation. Benefits: lower service costs, happier customers, repeat sales.

What's available: From ¼" dia. to 1½" dia. in fine and coarse thread. Grade A is for use on bolt and stud grades SAE 2 and lower; Grade B for use on SAE grades 3, 4 and 5 bolts and studs; Grade C for use with SAE grades 6, 7 and 8 bolts and studs. Stover nuts for use with machine screws No. 8 and larger are available on special order as are stainless steel and non-ferrous. Where space is a problem, such as on pinion and pulley shafts, Stover jam (thin) collar-type nuts in grades A and C are recommended.

For engineering information, price data and samples, contact Lamson & Sessions.

*Patented

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5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO

Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

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Pulse of Business

Expect Rail Strike Soon

IT'S AN 8-5 bet that there'll be a railroad strike within the next few months.

With railroad management insisting on its right to determine work rules and labor fighting to retain its favorable position, there appears to be little hope of a peaceful settlement. Although the operating and non-operating unions may try a "divide-and-conquer" policy by hitting only one or a few railroads at a time, the strike will certainly affect almost every purchasing agent in the country.

The primary issue in dispute is "featherbedding." The railroads claim they are faced with unnecessary employment costs of over $500 million annually because of outdated and outmoded work rules.

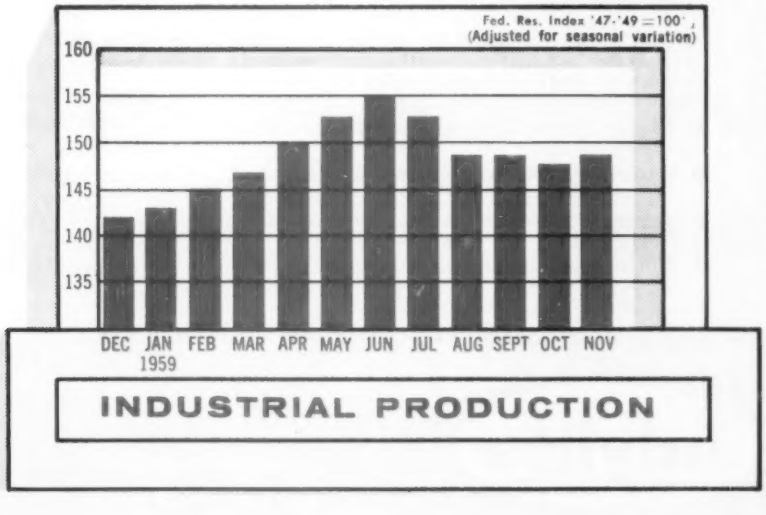
For instance, take the question of eliminating firemen from switching engines and freight trains. Management wants the right to determine when firemen should be used in freight and yard services. The annual cost for this and other surplus jobs to the road is $280 million.

Are Firemen Necessary?

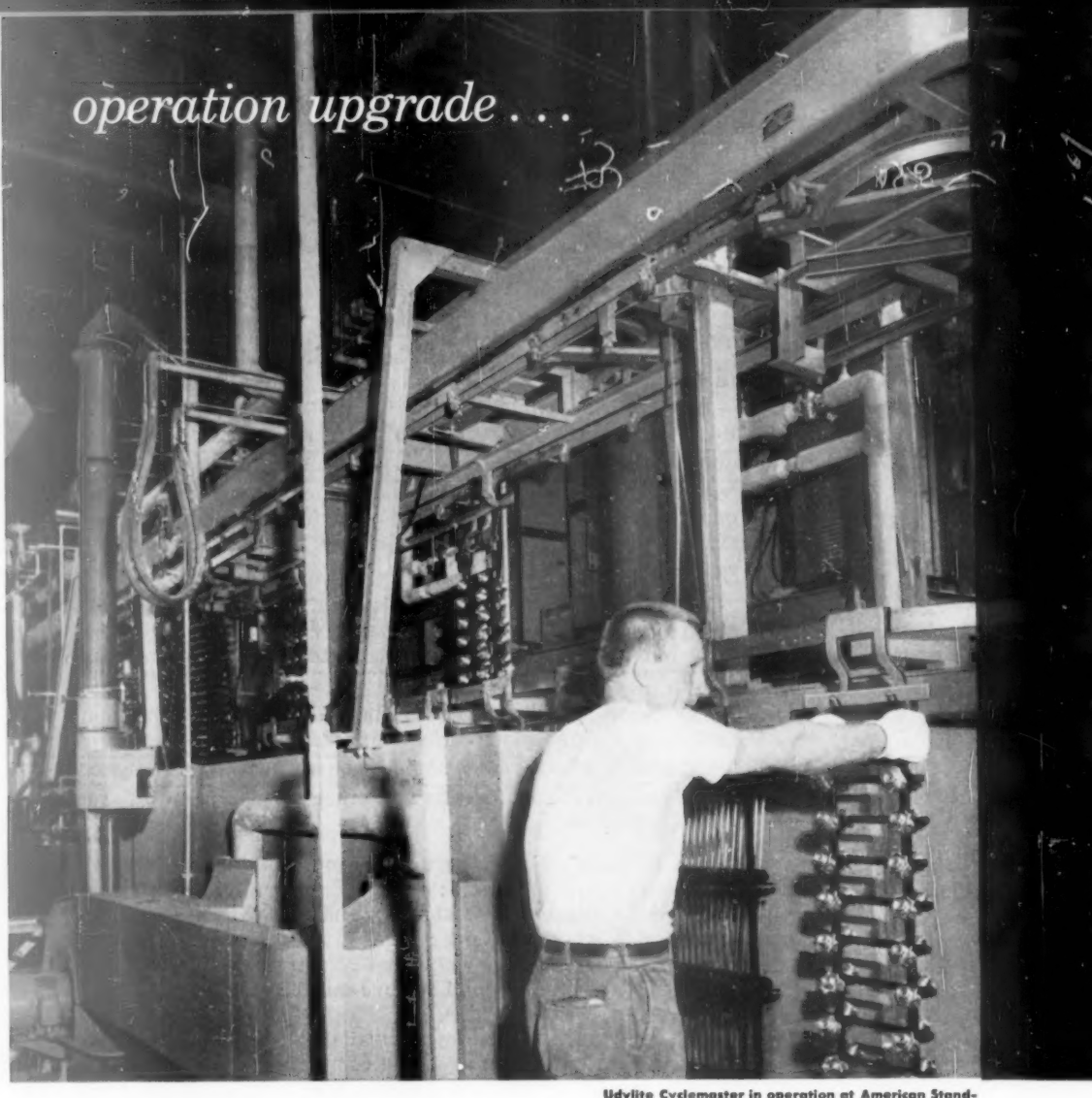
The Firemen's Union, naturally enough, is opposed to this proposal on two main counts: (1) any such measure would throw many of its members out of work and (2) withdrawal of firemen from trains would endanger lives and property. Management's answer is that its plan would not affect the status of firemen in passenger trains, but would remove unnecessary employees—in the yards and on freight trains.

The companies cite a report made by a Royal Commission in Canada about two years ago. The commission investigated the rail labor situation in Canada and found that "firemen are not required on diesel locomotives." It also said that firemen on freight and yard diesels are not needed as a safety measure—to perform lookout duties, to pass signals, or to render mechanical assistance.

(Turn Page)



The Federal Reserve Board's Industrial Production Index rose a point to 148. But the index is still 4½% below the pre-strike peak notched in June 1959.



Udylite Cyclemaster in operation at American Standard Plumbing and Heating Division, Cincinnati, Ohio

CYCLEMASTER has the answer . . .

This Udylite Cyclemaster, which is another way to say low cost automation, represents six important areas of improvement in American Standard's plating production.

- quality control to meet their most exacting top standards
- production volume far exceeding their expectations
- nearly 50% savings in floor space used for the operation
- almost total elimination of rejected pieces
- ultra-sonic cleaning to eliminate complicated de-greasing
- Plastisol coated tanks for minimum maintenance . . . long life

Learn how Cyclemaster can perform with equally promising revisions of your profit picture while improving your product whatever it may be. To find out how so *much* can be accomplished for so *little*, ask your Udylite representative, today!

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PRODUCTION

Other problems stemming from the early days of railroading that the companies want to get rid of are: continuation of the old fashioned per-run pay system which was based on longer travel time (costing $150 million) and duplicate payments and duplicated work under jurisdictional barriers (costing $120 million).

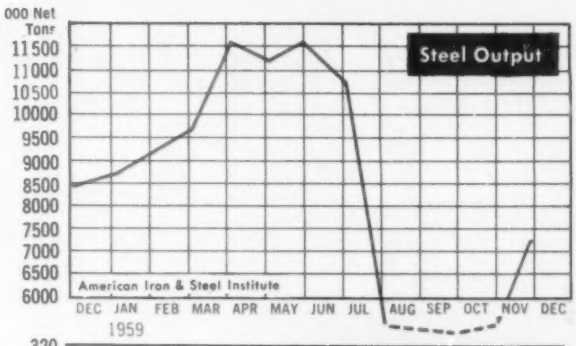
Another problem between management and labor is wages. The unions say that payments to railroad labor trail the wages in other industries. But the Association of American Railroads points out that average straight time hourly earnings in August 1959—for all rail employees was $2.67—compared with $2.12 for workers in general manufacturing.

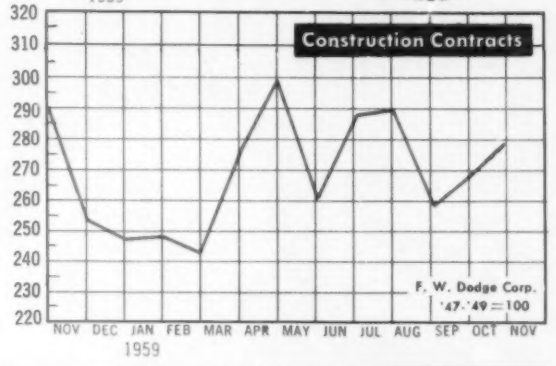
"Real" earnings, too, show a steady long-range improvement, says the AAR. Average earnings per hour rose 170% between 1945 and 1958 — while the Bureau of Labor Statistics' Consumer Price Index advanced 61%. During the same period, manufacturing workers had a 125% increase in wages.

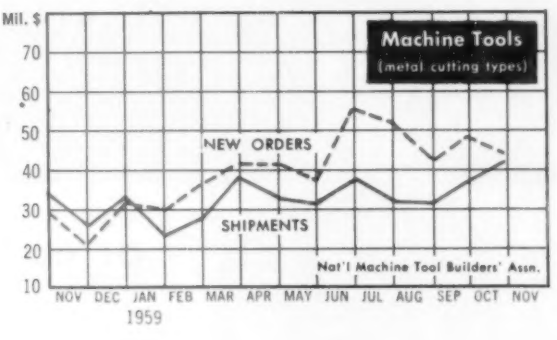
And of course, the big question of railroad profits is another bone of contention at the bargaining table. While the unions say that the railroads are now making bigger profits than ever before, the companies deny this vigorously.

They say that their profits last year—depressed by the 116-day steel strike—will probably show little, if any, improvement over 1958 levels. In that year, rails ranked at the bottom of the list among 65 major industries in rate of profits.

The rails won't be the only carriers to be affected by a strike in that industry. Trucking will be hit too, since there aren't enough trucks now on the highway to take care of all the







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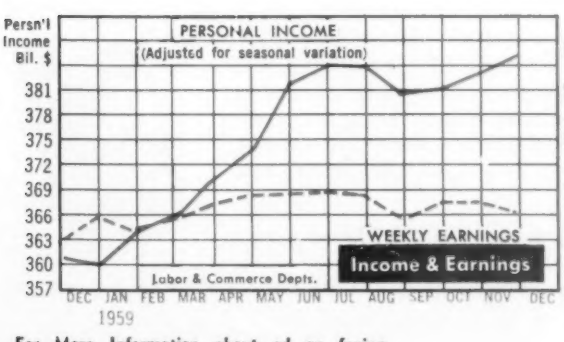

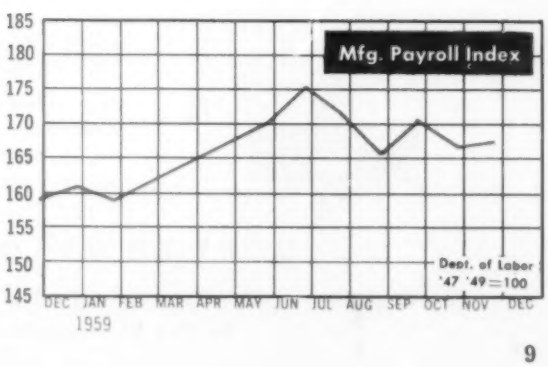

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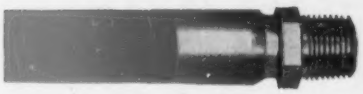
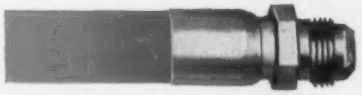
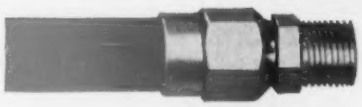


Permanently Attached Male (NPTF) for 1, 2 and 3 Wire Braid rubber cover hose. Plated to prevent rust and corrosion.
Sizes: ¼" thru 2".
Wkg. Press.: 375—5000 p.s.i.



Permanently Attached Male Flare (JIC) for 4 and 6 Spiral Wire Braid rubber cover hose. Used for Ultra High Pressure.
Sizes: ½" thru 1½".
Wkg. Press.: up to 7500 p.s.i.



Reusable Male (NPTF) for cotton and rubber cover hose. No skiving necessary.
Sizes: ¼" thru 2".
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Reusable Swivel Female for 1 and 2 Wire Braid rubber cover hose. Easy field replacement.
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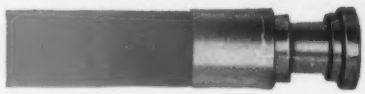

Permanently Attached Flange Head Couplings for 1 and 2 Wire Braid rubber cover hose. Available in angles to 90°.
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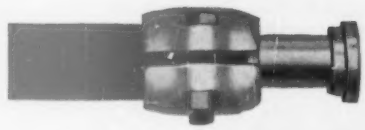
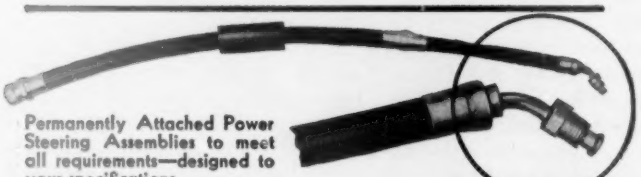


Clamp Type Couplings with split flange stems for 1 and 2 Wire Braid rubber cover hose. Exclusive "Inter-Lock" feature.
Sizes: ½" thru 2".
Wkg. Press.: 375—5000 p.s.i.



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Permanently Attached Air Conditioning Assemblies for automotive use—designed to your particular specifications.

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EASTMAN's unequalled experience in hydraulic conversion, plus many original designs shown in a few popular Eastman fittings at the left—give your product an appearance of quality that improves its competitive position. These assemblies are available in all thread styles and sizes.

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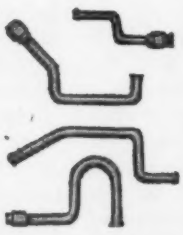
It is also a known fact that Eastman's co-operative engineering counsel and service is highly respected and often requested by leading OEM's. Let Eastman engineers help you lay out your fluid power lines—from pump to point of work—effecting economies in design, improving performance and increasing user satisfaction.

Let EASTMAN recommend the *best assembly . . . for the best performance . . . at the lowest cost.*



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WRITE for Eastman Technical Bulletins Nos. 100 and 200 on High, Medium and Low Pressure Hydraulic Hose Assemblies.

For More Information Write No. 162 on Inquiry Card—Page 32

Price Trends

- **Aluminum Ingot Prices Up 1.3¢**
- **Demand Weakens for Non-ferrous Metals**

THE Christmas-New Year holiday period slowed buying in many nonferrous metal markets. An upsurge is expected, however, in the next few weeks.

This is the current picture for a few of the important commodities that P. A.'s buy:

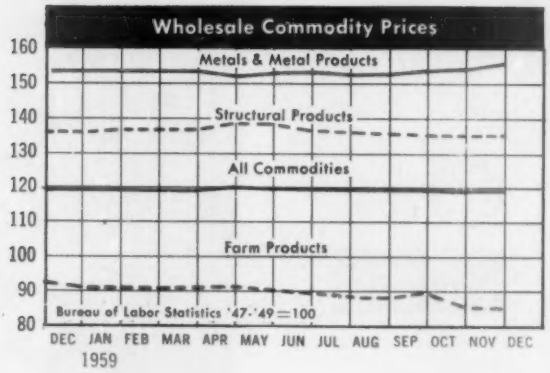
Copper: Copper demand has been slight recently, with many purchasing agents awaiting further developments in the strike situation. The large copper producers are still closed down as a result of the walkout that began last August.

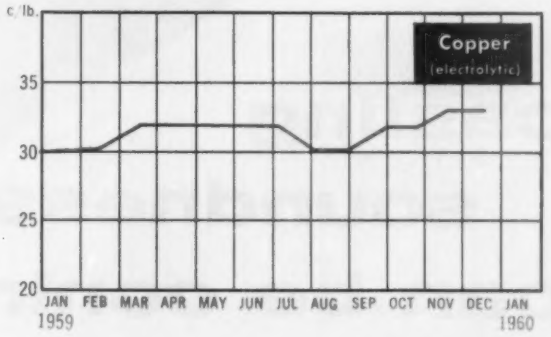
When full scale output is resumed prices could easily weaken. Despite the strikes, refined stocks in the hands of producers are still above the levels at the beginning of 1959. In the latest report from the Copper Institute, world refined stocks were 310,501 tons—off about 20,000 tons from the previous month but still up sharply from the 262,544 tons held in January 1959.

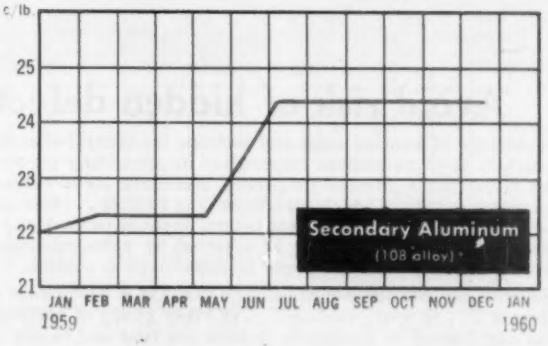
Domestic mine output is at a quarter-century low, with the latest monthly figure standing at 18,325 tons. Foreign primary production, on the other hand, rose 9785 tons to 173,263 tons.

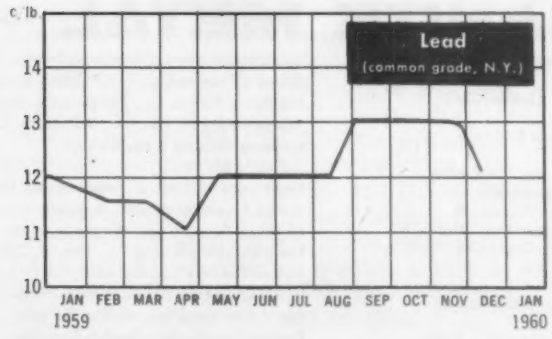
Lead: Slack buyer demand for lead—plus a boost in production following the end of the American Smelting and Refining Co. strike—resulted in two half-cent price cuts last month. ASARCO turns out about 40% of all domestically mined lead.

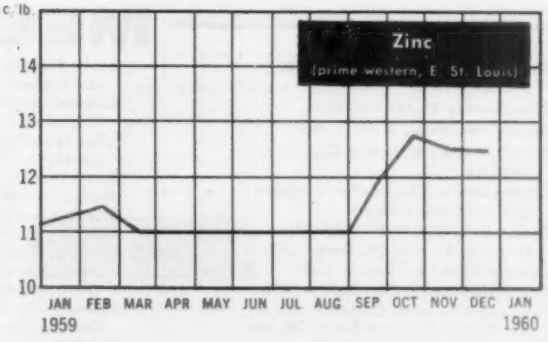
With lead users under no marked pressure to

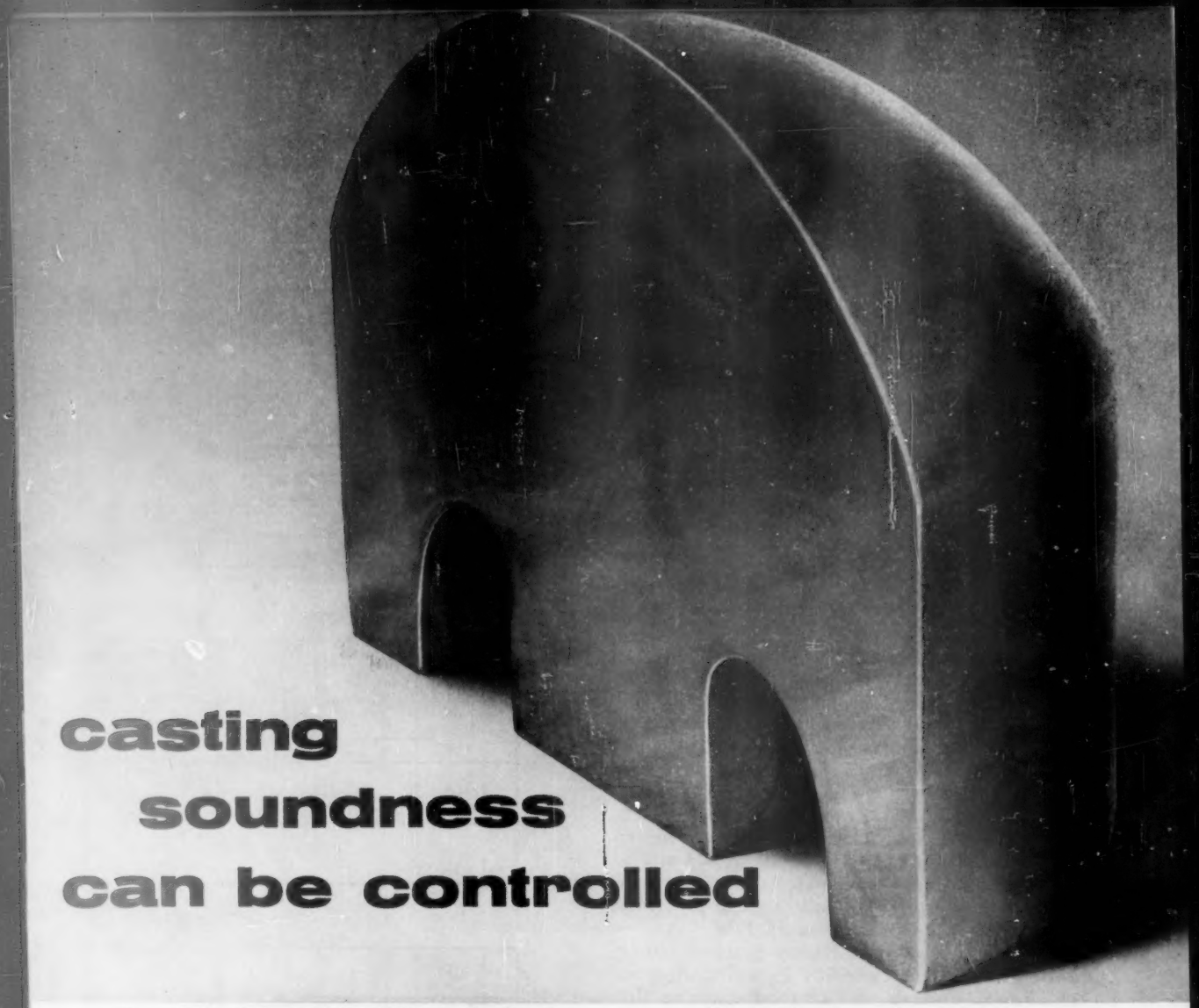












Avoid risk of hidden defects . . . specify Meehanite castings

In castings of varying sizes and sections the control of metal structure is of paramount importance in preventing porosity and deviations in physical properties. Meehanite metal's dense, fine grain structure which assures casting solidity . . . free and easy machinability . . . and consistent physical properties regardless of mass or section is achieved by patented manufacturing methods quite unique in metallurgical control.

The uniform soundness of Meehanite castings is predictable in advance . . . in every casting . . . in every group of castings. You can depend on Meehanite to save you time and money in your shop and to enhance your products reputation in the field.

Avoid the risk of hidden defects which result in high machining costs and time loss. Don't take a chance on bargain prices or so-called "equivalents." Specify Meehanite castings and be free from worry. Whatever your casting requirements, there is a nearby Meehanite foundry ready to serve your needs.

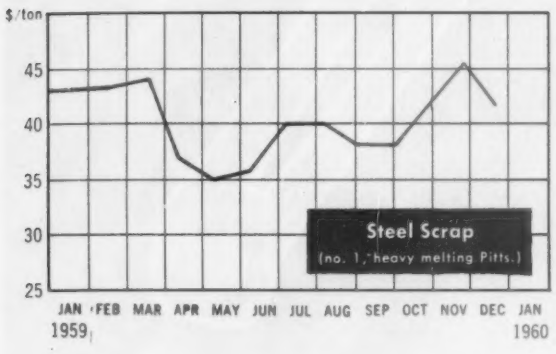
For additional facts about Meehanite®, write to the Meehanite Metal Corporation, 714 North Ave., New Rochelle, New York, for your free copy of *Meehanite Means Better Castings.*

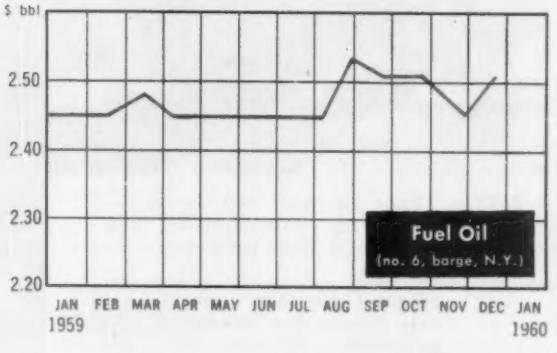
MEEHANITE METAL

The American Laundry Machinery Co., Rochester, N. Y.
Atlas Foundry Co., Detroit, Mich.
Banner Iron Works, St. Louis, Mo.
Barnett Foundry & Machine Co., Irvington, N. J.
Casting Service Corp., LaPorte, Indiana and Bridgman, Michigan
Centrifugally Cast Products Div., The Shenango Furnace Co., Dover, Ohio
Compton Foundry, Compton, Calif.
Continental Gin Co., Birmingham, Ala.
The Cooper-Bessemer Corp., Mt. Vernon, Ohio and Grove City, Pa.
Crawford & Doherty Foundry Co., Portland, Ore.
Dayton Casting Co., Dayton, Ohio
Empire Foundry Co., Tulsa, Okla. and Bonham, Texas
Florence Pipe Foundry & Machine Co., Florence, N. J.
Fulton Foundry & Machines Co., Inc., Cleveland, Ohio
General Foundry & Mfg. Co., Flint, Mich.
Georgia Iron Works, Augusta, Ga.
Greenlee Foundries, Inc., Chicago, Ill.
Hamilton Foundry, Inc., Hamilton, Ohio
Johnstone Foundries, Inc., Grove City, Pa.
Kanawha Manufacturing Co., Charleston, W. Va.
Kennedy Van Saun Mfg. & Eng. Corp., Danville, Pa.
Lincoln Foundry Corp., Los Angeles, Calif.
Nordberg Manufacturing Co., Milwaukee, Wis. and St. Louis, Mo.
Oil City Iron Works, Corsicana, Texas
Palmyra Foundry Co., Inc., Palmyra, N. J.
The Henry Perkins Co., Bridgewater, Mass.
Pohlman Foundry Co., Inc., Buffalo, N. Y.
Rosedale Foundry & Machine Co., Pittsburgh, Pa.
Ross-Meehan Foundries, Chattanooga, Tenn.
Sonith Foundries of FMC, Indianapolis, Ind.
Standard Foundry Co., Worcester, Mass.
The Stearns-Roger Mfg. Co., Denver, Colo.
Vulcan Foundry Co., Oakland, Calif.
Washington Iron Works, Seattle, Wash.
Dorr-Oliver-Long, Ltd., Orillia, Ontario
Hartley Foundry Div., London Concrete Machinery Co., Ltd., Brantford, Ontario
Otis Elevator Co., Ltd., Hamilton, Ontario

MEEHANITE METAL CORPORATION, NEW ROCHELLE, NEW YORK

Price Trends

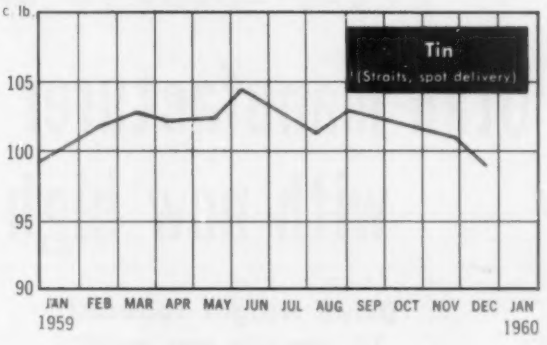




build up stocks and the London price still a few cents lower under New York, P.A.'s weren't surprised by the price reduction. Nor are lower prices likely to stimulate buying; most users have ample inventories.

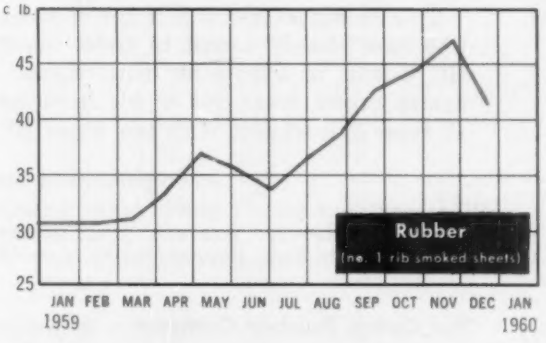
Zinc: Overall zinc sales volume is light. Most buying for January delivery has already been completed. But purchasing for February delivery has started, which should force greater mine output.

Most orders are still being placed on a firm price basis.



Tin: Tin demand from purchasing agents is subdued, despite the resumption of steel mill operations.

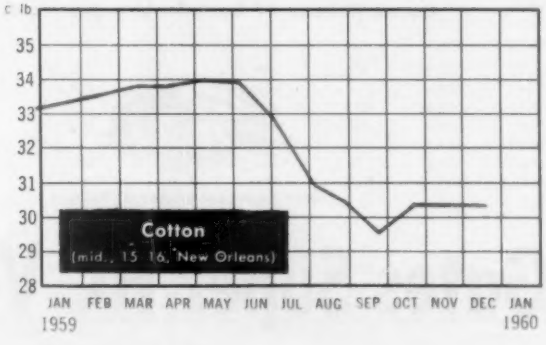
In the current quarter, total permissible exports for the six producing members of the International Tin Council has been set at 36,000 tons. This represents a 6000 ton increase from the Eighth Control Period which ended four days ago.



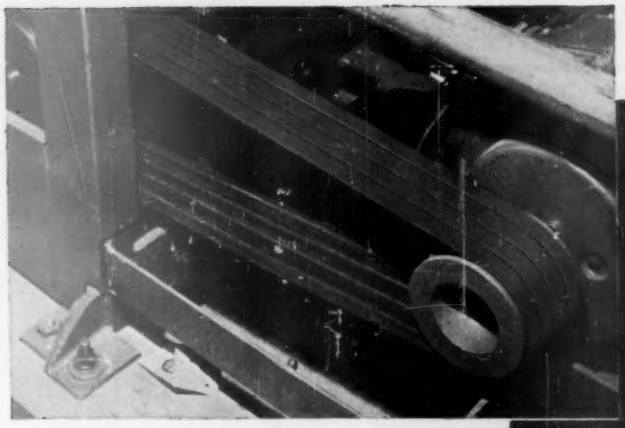
Aluminum: Now that there's peace on the aluminum labor front, purchasing agents will have to pay more for the material. Led off by a 1.3 cent increase by Aluminium, Ltd., the large American producers followed suit with similar advances. Further price increases this year are considered likely.

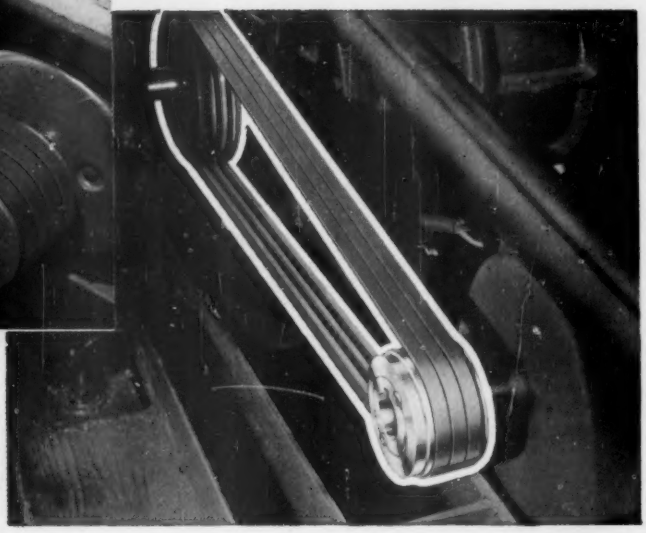
In the latest monthly report by the Aluminum Association, shipments of aluminum sheet and plate rose 12,538,000 pounds to 118,349,000 pounds. During this same period, shipments of foil advanced 969,552 pounds to 21,314,044 pounds.

Aluminum Co. of America predicts a 10% to 15% increase in deliveries this year over the estimated 2.4 million ton total in 1959.



For More Information about ad on facing ←page Write No. 163 on Inquiry Card—pg. 32





Before: Four standard belts were required to drive the clothes pressing unit manufactured by a Utah company.

After: Three Gates Super HC V-Belts now handle the redesigned pressing unit drive — save more than 16 pounds in drive weight — 24% in drive cost.

Utah manufacturer cuts drive cost 24% with new high capacity V-Belt

Drive weight reduced 16 pounds per unit!

This manufacturer is just one of many who have already turned to Gates Super HC V-Belts to achieve far more compact, lighter weight, lower cost V-belt drives for all types of machines. With new Super HC V-Belts, sheave dimensions can be reduced 30% to 50%, overall space up to 50%, and drive weight by 20% and more.

A product of Specialized Research in the world's largest V-belt laboratories at Gates, the Super HC V-Belt Drive is already standard equipment on production models in virtually every industry.

Engineering Service Nation-Wide

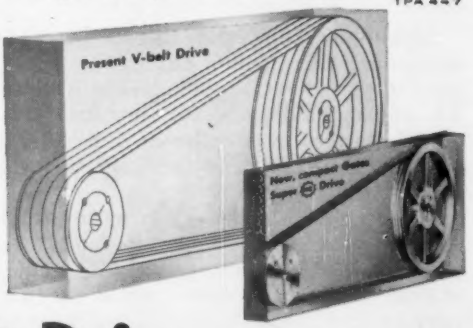
Whatever your plant's power transmission design problem, wherever you are, your nearby Gates Distributor or Field Representative is ready to assist you to cut space, weight, and costs with Super HC. Ask him for a copy of *"The Modern Way to Design Multiple V-Belt Drives."*

TPA 447

The Gates Rubber Company, Denver, Colorado
Gates Rubber of Canada Ltd., Brantford, Ontario

Gates

World's Largest Maker of V-Belts



Gates Super HC V-Belt Drives

same hp capacity in smaller "package"

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Sales, Inventories, Orders

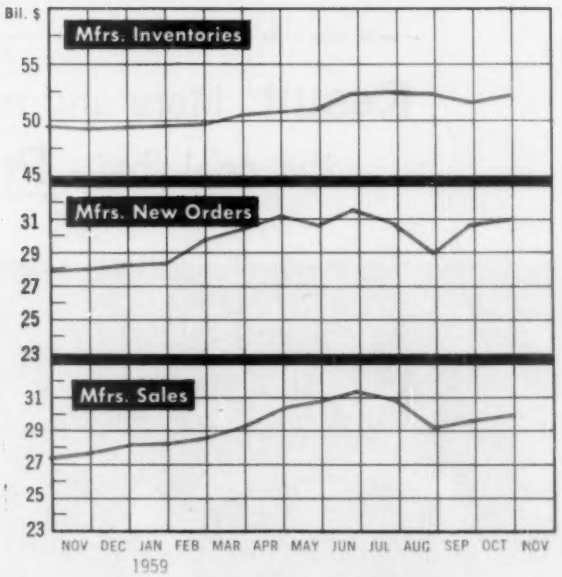
• Statistics Still Show Steel Strike Slump

FOR THE third straight month, manufacturers' inventories fell in October because of the steel strike. Seasonally-adjusted sales and new orders also declined.

The $500 million inventory decline to $51.4 billion was largely due to liquidation of steel and metal product stocks. Durables inventories fell $600 million, while nondurables rose $100 million.

Sales—totaling $29.2 billion—were also off $500 million. This drop would have been even greater if it weren't for a temporary spurt in automobile sales which partly offset declines in most other major industries.

New orders were $30.2 billion—$300 million less than the previous month. New bookings of durable producers advanced while those in the nondurables area dropped.



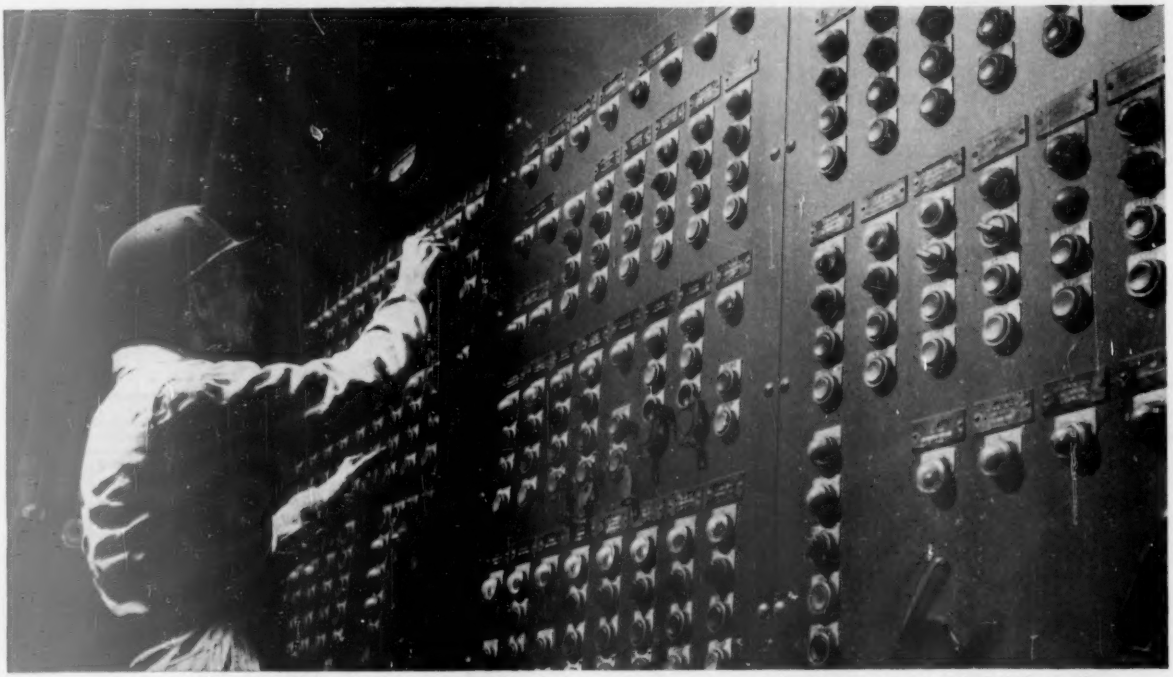
Dept. of Commerce—Seasonally adjusted

	1958	1959			
	Oct.	June	July	Aug.	Sept. (r)	Oct. (p)
Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)						
All Manufacturing Industries	27,158	.. ...	30,858	29,268	29,818	29,350
Durable-goods industries	12,943	.. ...	15,384	14,008	14,113	13,949
Primary metal	2,182	. ...	2,104	1,227	1 212	1,189
Fabricated metal	1,569	. ...	1,787	1,703	1,759	1,670
Machinery	3,993	. ...	4,778	4,651	4,663	4,620
Transportation equipment	2,592	. ...	3,667	3,577	3,641	3,730
Lumber and furniture	898	. ...	1,077	991	977	936
Stone, clay, and glass	653	...	805	751	718	695
Nondurable-goods industries	14 215	.. ...	15,474	15,260	15,705	15,401
Food and beverage	4,377	. ...	4,540	4,511	4,618	4,578
Tobacco	385	...	382	395	408	398
Textile	1,042	. ...	1,256	1,250	1,222	1,201
Paper	947	. ...	1,060	1,011	1,029	1,005
Chemical	2,077	. ...	2,171	2,157	2,273	2,208
Petroleum and coal	2,903	. ...	3,093	3,071	3,301	3,138
Rubber	493	...	519	492	544	582
Manufacturers' Inventories Seasonally Adjusted (Millions of Dollars)						
All manufacturing industries	49,337	.. ...	52,241	52,116	51,892	51,419
Durable-goods industries	27,932	.. ...	30,349	30,145	29,817	29,221
Primary metal	4,005	. ...	4,108	3,980	3,923	3,873
Fabricated metal	2,928	. ...	3,411	3,328	3,117	2,912
Machinery	9,026	. ...	9,802	9,826	9,741	9,807
Transportation equipment	6,594	. ...	7,397	7,333	7,305	6,830
Lumber and furniture	1,721	. ...	1,823	1,841	1,860	1 858
Stone, clay, and glass	1,211	. ...	1,270	1,261	1,277	1,323
Non-durable goods industries	21,405	.. ...	21,892	21,971	22,075	22,198
Food and beverage	4,694	. ...	4,847	4,833	4,832	4,780
Tobacco	1,857	. ...	1,838	1,866	1,930	1,953
Textile	2,490	. ...	2,534	2,495	2,516	2,572
Paper	1,423	. ...	1,457	1,473	1,471	1 480
Chemical	3 760	. ...	3,847	3,907	3,970	4,008
Petroleum and coal	3,276	. ...	3,314	3,332	3,267	3,261
Rubber	1,022	. ...	1,075	1,113	1,114	1,119
Manufacturers' New Orders Seasonally Adjusted (Millions of Dollars)						
All manufacturing industries	27,903	.. ...	30,827	29,016	30,552	30,367
Durable-goods industries	13,530	.. ...	15,493	13,974	14,747	14,908
Nondurable-goods industries	14,373	.. ...	15,334	15,042	15,707	15,317

(r) Revised. (p) Preliminary.

More and more **coal** buyers are checking the net cost per **1000 pounds of steam**

Result: More and more specify Island Creek the coal that's **Precisioneered** *



Nerve center of multi-million dollar Island Creek preparation plant where every complex operation is observed and controlled electrically.

* PRECISIONEERING at Island Creek is many things. Essentially, it is starting with superior seams of eastern coal . . . and manufacturing it to the exact specifications *your* burning equipment requires to produce steam at the lowest net cost per 1000 lbs. This involves the use of precision engineering techniques in the most modern preparation plants. It involves strictest laboratory controls. It involves far-reaching engineering service and evaluation studies. From start to finish it involves the *career company attitude* that has made Island Creek a leader to whom other leaders may look—with confidence. We'd welcome a chance to get down to *net* costs—with you and your plant people. Write. Or phone. No obligation, of course.

ISLAND CREEK
Precisioneered Coal

You can depend on Island Creek . . . a career company dedicated to coal

Island Creek Coal Sales Company, Chafin Building, Huntington 18, West Virginia • Chicago • Cincinnati • Cleveland • Detroit • Greensboro • New York • Pittsburgh

For More Information Write No. 165 on Inquiry Card—Page 32

See Small Surplus In Fiscal '61 Budget

WHAT WILL be the major economic issues facing the second session of the 86th Congress convening here this month?

To get the answer to this question, PURCHASING Magazine spoke to Congressional leaders, Administration officials, and political figures. As they see it, these are the main business topics that will be debated on Capitol Hill:

- The fight for a balanced budget
- Financial management
- Monetary support for space supremacy
- Labor - management relations
- Farm prices and programs

Thousands of words on each of these subjects will soon be recorded in *The Congressional Record* by our Senators and Representatives. But boiled down to essentials, here are the stories that will make the headlines during the next six months:

(1) Balancing the Budget—These are familiar words in Washington. And their ring in this election year is certain to be heard as clearly as ever before.

It seems certain now that federal expenditures for fiscal 1961—beginning in July 1960—will be around $81 billion. This is a $4 billion increase over fiscal 1960 originally prepared by the Eisenhower Administration.

The fiscal '60 budget was originally designed to yield a small surplus. However, the 116-day steel strike killed all thoughts of even a balanced budget. Washington officials now predict a small deficit for the current fiscal year.

Plans for fiscal '61 also call for a small budget surplus. Again, the possibility of a walkout in the railroad industry or other major strikes could cancel these hopes.

Federal Budget Summary
$ in Billions—Fiscal Years

	1957	1958	1959	1960 (Est.)	1961 (Est.)
Receipts	71.0	69.1	68.3	77.0	81.0
Expenditures	69.4	71.9	80.7	76.0	80.9
Surplus or Deficit	+ 1.6	− 2.8	−12.4	− 1.0	+ 0.1

As usual, defense spending will take the major portion of government spending—with around $41 billion scheduled for that area. Since almost the same amount was budgeted in fiscal '60, this means that the proportion of total expenditures for defense will drop in fiscal '61. And because of inflation—with prices likely to rise around 3%—it really means that the defense budget is being cut in terms of what the $41 billion will buy.

(2) Managing the Government Debt—Secretary of the Treasury Robert B. Anderson will again be on the spot as he tries to borrow money for the government in the coming months.

His big problem? Getting long-term funds.

During the last session, Congress refused to raise the interest rate on long-range borrowing above 4¼%. With the rate frozen at this level, the Treasury has its hands full obtaining money from lenders. Commercial rates, of course, are higher—and the federal government itself is paying around 5% for short-term funds (its "Magic 5's" offering last fall was an immediate sellout).

Anderson is sure to go before Congress this year to ask for higher long-term interest rates. But even based on the lower rate, the Eisenhower budget for fiscal '61 is likely to call for a $100 million increase in interest payments over the previous year. The new figure: About $8.2 billion.

(3) Paying for the Space Race—There's sure to be a big hassle in Congress over appropriations for the nation's space program. Already the Capital is buzzing with comments over the proposed budget for the National Aeronautics and Space Administration.

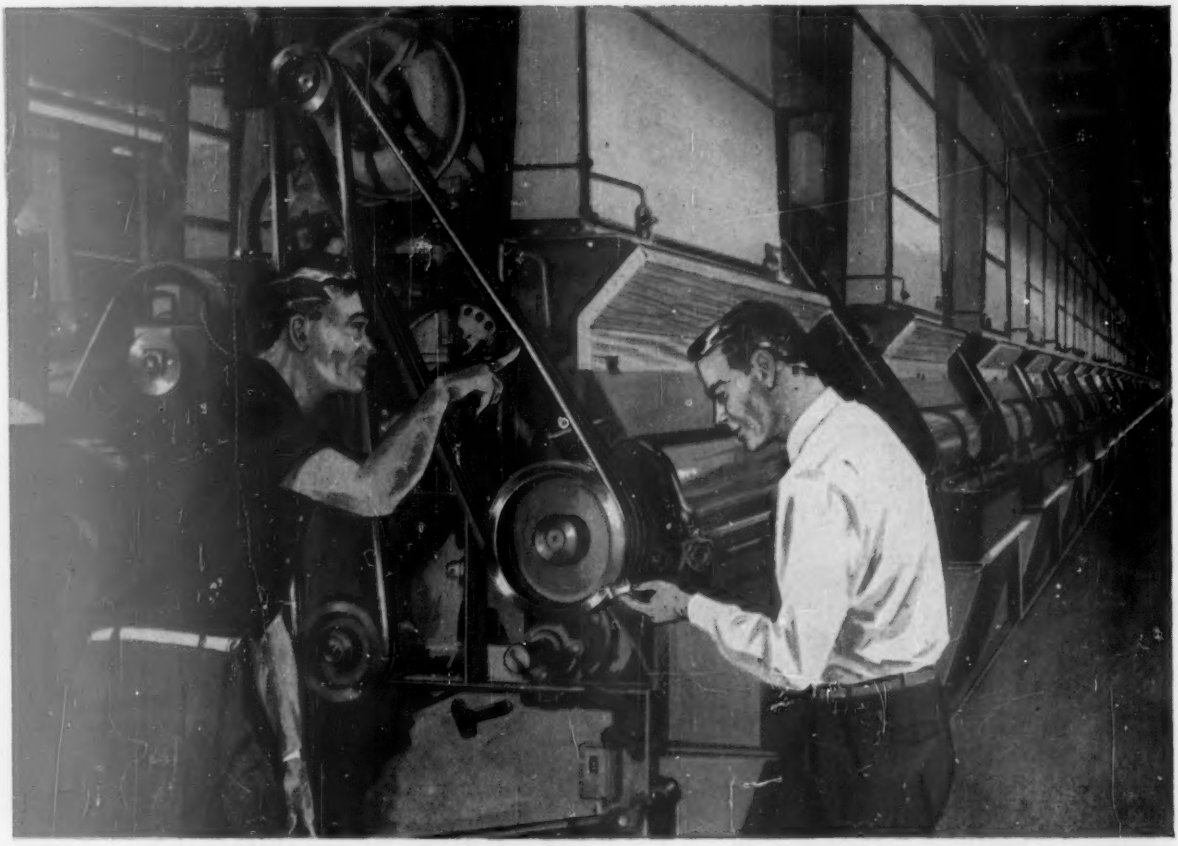
Washington sources say that the White House will ask for $800 million to support the space program in fiscal 1961. In the current fiscal year, Congress appropriated $500 million—$30 million less than the Administration requested.

Actually, the increase in fiscal '61 is misleading, because the NASA now has the task of supporting the new Saturn project. Excluding this project, the year-to-year space spending hike is about 25%.

Some Congressmen believe that the space agency should receive $900 million or $1 billion to make us more competitive with the Soviet Union. However, the Administration does not want to engage in any space race where we have to be first in all space technological developments.

(4) Labor-Management Relations—If the steel strike is resumed at the end of this month—following the Taft-Hartley in-

ROYAL V-BELTS from the Power Unlimited complete belt line



George M. Philpott Co., U. S. Royal Belt Distributor, shows customers

HOW TO INCREASE PRODUCTION AND REDUCE INVENTORY

The George M. Philpott Co. has been given the full responsibility of handling V-belts for the Ranchers Cotton Oil Company of Fresno, California, a company that uses 1000 V-belts in their daily operation. A very nice account, indeed, and one that the Philpott Company has well earned.

Ranchers Cotton Oil Company, like so many others, always had trouble replacing V-belts because of their lack of LENGTH-STABILITY. Machines remained idle while engineers tested as many as fifteen belts to find a compatible set of four.

Mr. E. D. Hudson, General Superintendent, consulted with the Philpott Co. Mr. Hudson was told that the solution was simple because every U. S. Royal V-Belt has exclusive and built-in LENGTH-STABILITY, resulting in less downtime, greater production and a 90% saving in belt inventory.

• • •

Philpott and all other "U. S." Distributors do more than just sell industrial rubber products. Their engineers, working with "U. S." Field Service engineers and plant engineers, design complete transmission drives . . . a service that is saving industry thousands and thousands of hours and dollars every day.

Mechanical Goods Division

United States Rubber

WORLD'S LARGEST MANUFACTURER OF INDUSTRIAL RUBBER PRODUCTS

Rockefeller Center, New York 20, N.Y. In Canada: Dominion Rubber Company, Ltd.

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Washington Report

junction period—it's likely there will be additional labor legislation during this session.

The Landrum-Griffin Bill, approved last session, included many provisions designed to prevent and weed out union corruption. But many in Congress feel this law didn't go far enough in the vital area of extensive strikes that affect the national health and safety.

Feeling is running high in Washington that some way must be found to prevent these costly walkouts. Compulsory arbitration and permanent labor-management study committees are some of the ideas being tossed around in Washington restaurants and cocktail lounges. If David J. McDonald and R. Conrad Cooper don't get together soon on a settlement, don't be surprised to see new laws approved to force them into a fair agreement.

(5) Agricultural Planning—The cries for the scalp of Secretary of Agriculture Ezra Taft Benson won't get any lower during this session.

Democrats will continue to attack Benson's methods of fighting farm surpluses. These include dropping price supports, enlarging the voluntary soil bank, finding nonfarm jobs for marginal farmers, and increasing surplus disposal abroad.

Benson, of course, wants these programs pushed forward as a means of cutting government outlays for the farm program. He's counting on support from Republicans in Congress—but in this election year Republicans from farm states will have to watch voter reaction carefully.

Nevertheless, government support of agriculture in fiscal 1961 will also rise over fiscal 1960. The new amount will be somewhere in the neighborhood of $6.5 billion—an increase of around $500 million.

Next Session a Hot One

In addition to these major issues, many other topics will arise in Congress of interest to industrial purchasing agents. Among them are new proposals for controls on business, measures to reform the individual and corporation tax structure, and federal-state relationships in a number of sensitive areas.

It makes sense to suppose that both parties want to go to the voters in November with positive accomplishments. Therefore, both Republicans and Democrats will attempt to push through programs of interest to the business community.

The second session of the 86th Congress is sure to be a short one—six months or less—but it is equally as sure to produce enough fireworks to last throughout the whole year.

• Defense Extends Single Manager Program

The Defense Department has extended its Single Manager program for supplies bought by the three armed services.

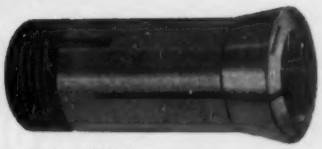
Newest assignments under the program are industrial supplies to be bought by the Navy and housekeeping supplies to be purchased by the Army. The Secretary of each service has been given full responsibility for activities in these areas. The agencies to carry out the new programs were officially established three days ago.

The military first instituted its Single Manager operation in May 1956. It calls for integrated supply management and purchasing of common supplies and equipment. Since its start, it has proven advantageous in these two ways:

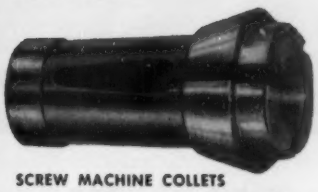
(1) Much duplication, competition, and overlapping of effort by the Army, Navy, and Air Force has been eliminated.

(2) Effectiveness and economy of supply and service operations throughout the Department of Defense has improved. This includes streamlining distribution systems and reducing inventory, storage

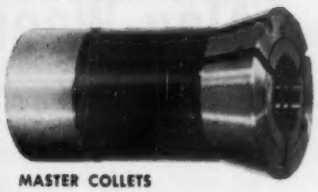
When You Think Collets Think HARDINGE



LATHE COLLETS



SCREW MACHINE COLLETS



MASTER COLLETS

One Source of Supply for all your Collet requirements – means Purchasing Economy

Complete range of sizes, round, hexagon, square.

Shop Proved for Over 65 Years

FREE! "How to Order Collets"

HARDINGE BROTHERS, INC.
ELMIRA, N. Y.

Immediate delivery from conveniently located stocks in: Atlanta, Boston, Chicago, Dayton, Detroit, Elmira, Hartford, Los Angeles, New York, Philadelphia, Seattle, Portland, Minneapolis, Oakland, St. Louis, Toronto, Montreal.

For More Information Write No. 167 on Inquiry Card—Page 32

• HARDINGE COLLETS • HARDINGE COLLETS • HARDINGE COLLETS • HARDINGE COLLETS • HARDINGE COLLETS • HARDINGE COLLETS • HARDINGE

Alan Wood Super Diamond floor plate ...is easy to bend

The arrangement of the exclusive A. W. Super Diamond pattern lets you bend this flooring at any place on the plate. Form this heavy duty floor plate to fit steps, ramps and walkways . . . it bends readily.

Fabrication is easy . . . you can shear it, weld it and match it wherever necessary. A. W. Super Diamond provides a safe, non-skid footing . . . won't chip, splinter or crack. Save on cleaning costs, too . . . A. W. Super Diamond is easily swept, mopped or hosed from any direction. It drains freely . . . no pockets to hold dirt.

For easy fabrication and installation . . . for safety . . . for long wear . . . specify A. W. Super Diamond. Write for Bulletin SD-S5.

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

DISTRICT OFFICES: Philadelphia • New York • Los Angeles • Boston • REPRESENTATIVES: Atlanta • Buffalo Cincinnati • Cleveland • Detroit • Houston • Pittsburgh • Richmond • St. Paul • San Francisco • Seattle Montreal, Toronto and Vancouver, Canada—A. C. Leslie & Co., Ltd.

For More Information Write No. 168 on Inquiry Card—Page 32

space, personnel, and overhead.

Complete Supply Responsibility

Single Managers have complete responsibility for all wholesale supply of the commodities they handle. This means they must do the purchasing, cataloging, standardizing, distributing—and also dispose of excess items.

When the program first began, the Army was given the job of buying subsistance items, clothing, and textiles—as well as handling traffic management. The Navy was charged with procuring medical supplies and petroleum, plus managing the Military Sea Transportation Service. Seven months later, responsibility for Air Transport Services was placed in the hands of the Air Force.

Here's how the system works: The Secretary of the particular service concerned (the Single Manager) designates someone in his department to acually run the show. This designation is subject to final approval by the Secretary of Defense.

Executive Director

The appointee is given the title of Executive Director. He and his staff are the men on the firing line who deal with suppliers of materials and services handled by his agency.

The Navy has already set into motion the Military Industrial Supply Agency. Executive Director of this agency is Capt. John W. Bottoms, Supply Corps, who is also Commanding Officer of the General Stores Supply Office. Headquarters of the agency will be in Philadelphia.

Although the Army hasn't officially designated its Executive Manager yet, his appointment will be announced shortly. The Pentagon is studying the areas to be placed under control of this agency.

New assignments in the Single Manager program are now being considered by Secretary of Defense Thomas S. Gates.

—Leonard Sloane

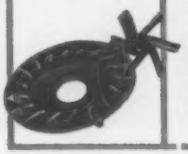
Life in these excited states...

"Glad to see you're a man with ideas, Henry"

ACE-ITE
all-purpose toughie

High-impact, rubber-plastic, most economical for average chemicals. ½ to 6". Screw or solvent welded fittings. Valves ½ to 2". NSF-approved. *Bul. 80A.*

ODD SHAPES?
you make...we line



Rubber or plastic lining is economical life insurance for costly "special" equipment. It's a specialty with ACE. Write for *Bul. CE-53.*

PLASTIC VALVES
for matched systems

Choice of Riviclor PVC, Ace-Ite rubber-plastic, Ace polyethylene or Ace Saran to match *any* plastic pipe. Sizes ½ to 2". Also larger plastic-lined valves.

Why men with ideas choose ACE equipment

Leading chemical design and development men work in the future... with no time to go back over specifications for equipment that didn't work out. You'll find they reach for Ace corrosion-engineered equipment time and again...just to be *sure*. If equipment failures give *you* no time to think ahead, it's time to give us a call.

PACHYDERMOUS PAIL

Ace-Hide, tough as a rhinoceros, insensitive to corrosives, makes this finest of acid pails. Also dippers, bottles, funnels, etc.

See our pages in eee Catalog!

ACE processing equipment of rubber and plastics

AMERICAN HARD RUBBER COMPANY
DIVISION OF AMERACE CORPORATION
Ace Road • Butler, New Jersey

For More Information Write No. 169 on Inquiry Card—Page 32

...a BIG DIFFERENCE in Cold Drawn Bars

Contrary to popular belief, all cold drawn bar steel is not alike. There is one big difference worthy of your specification—the Bliss & Laughlin difference.

Only B&L Lusterized® cold finished bars are different from all others. B&L bar steel is cleaner, brighter, easier to handle. The exclusive B&L cold finishing process (patent applied for) removes drawing oils, lime and processing grit, producing a smooth, gleaming bright surface without processing contaminants to slow your production. And B&L special protective oil keeps dirt, dust and other airborne contaminants from the Lusterized surface until you are ready to process the bars.

This big difference over other cold finished bar steel is another benefit developed from B&L research since 1891 to produce better cold finished bars.

You can see the difference. You can work the difference advantageously. Since you pay nothing extra for B&L Lusterized bars, it is always rewarding for you to specify "Bliss & Laughlin Lusterized."

Originators of LUSTERIZED® Finish—The BIG DIFFERENCE in Cold Drawn Bar Steel

BLISS & LAUGHLIN

Specialists in Finish, Accuracy, Straightness, Strength and Machinability

GENERAL OFFICES: Harvey, Ill. • PLANTS: Harvey, Detroit, Buffalo, Mansfield, Mass.

For More Information Write No. 170 on Inquiry Card—Page 32

Purchasing Follow-up

New Fume Collection System Readied For J&L

A new method of dust and fume collection will soon be in operation at Jones & Laughlin Steel Corporation's plant in Cleveland.

A $5 million gas cleaning system will be installed there by Joy Manufacturing Company. Electrostatic precipitators will collect the fumes and dust from two basic oxygen furnaces and three 220-ton open hearth furnaces.

A feature of this system is that gases from both the open hearth and the oxygen furnaces will be combined and cleaned in the same units. This will reduce costs while maintaining the same efficiency as separate precipitators for each process.

Gases from the open hearth furnaces will be conducted through waste heat boilers for cooling, then go on to a main flue system where they will be combined with those from the oxygen furnaces. These combined gases will be conducted to a central gas cleaning station made up of eight multiple dry plate electrostatic precipitators.

The dust and fume collection is part of the company's $50 million cost reduction and modernization program at its Cleveland works.

New Incorporations Set November Record

New business incorporations in November, 1959 were the highest for any November on record, says Dun & Bradstreet. They totalled 13,015, up 7.4% from the prior November record of 12,117 set in 1958. However, the number declined 10.4% from the October 1959 figure of 14,526.

A new eleven month record was also set in 1959. New company formations were 176,611—an increase of 31.5% over the 134,269 notched in the previous year.

The largest number of new incorporations last November was in the Middle Atlantic states, where 3587 businesses were formed. Next two areas were South Atlantic, with 2325 corporations, and East North Central, with 1933 new companies.

Materials Management Vital Concept: DeRose

Two conferences on "Materials Management for Profit" were conducted recently in England by purchasing expert Louis J. DeRose.

DeRose — editorial marketing consultant for PURCHASING Magazine and executive director of the Materials Management Institute—ran the meetings for the Industrial Educational Institute. One two-day conference was held in London, while the second took place in Birmingham.

The basic principles of materials management were presented to a large group of English purchasing managers, traffic managers, materials handling managers, and others. Methods of planning, scheduling, and controlling materials and inventory were analyzed in connection with the modern concept of materials management.

Leading Authorities

Among those attending the conferences were leading British purchasing and industrial authorities, including: J. R. Blinch, secretary and director of the Purchasing Officers Association; H. P. Mott, founder national chairman of the Institute of Materials Handling; Sir Walter Puckey, past president of the Institution of Production Engineers; F. E. Rattlidge, group chairman Institute of Production Engineers, Material Handling Group; and P. J. Joynes, editor of *Mechanical Handling*.

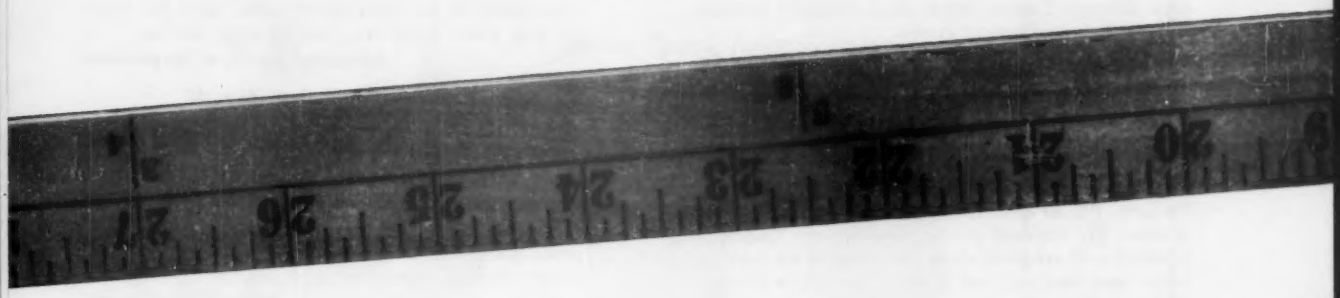
The subjects covered by DeRose were development of materials specifications, factors influencing materials and production schedules, procurement as a tool of materials cost reduction, integrating purchased materials and in-process materials, and organizing for profitable materials management. Folders of reference material, including comprehensive conference notes, were provided each man attending to help him establish materials management in his company.

Participants at the "Materials Management for Profit" conference in England gather together before the meeting. From l. to r.: J. R. Blinch, secretary and director of the Purchasing Officers Association; Tom Mott, Lansing Bagnall Ltd.; and George Dowrey, Unilever Ltd.

For More Information about ad on following page Write No. 171 on Inquiry Card—pg. 32→

YARDS
Barreled Sunlight
REG. U.S. PAT. OFF.
SUPER HIDING®
INTERIOR EGGSHELL
14-121 WHITE

AHEAD!



Barreled Sunlight's superior yardage gives you measurably more for your painting dollars!

You measure the cost of a can of paint two ways. Price per gallon is the most obvious . . . but least reliable. A far more accurate way to figure it is by the square yard . . . including labor costs which today take 80¢ out of every painting dollar.

Figured this way, it's easy to see why cost-conscious maintenance engineers and purchasing agents specify Barreled Sunlight *Engineered Paints.* Their experience shows that a gallon of Barreled Sunlight covers up to 20% more area . . . and covers it better. This extra "yardage" — the unique way in which Barreled Sunlight covers more area in fewer coats in less time — is just one of many factors determining their choice. Its smooth, dirt-resistant surface is another. Ability to stand up under severe conditions still another. Plus the fact that "Barreled Sunlight" on a purchase order means *fewer* paint purchases in the long run!

All things considered, you'll find that Barreled Sunlight Interior and Exterior Paints give you full measure and more for your paint investment. Our famed "On-the-Wall" Test will prove it to you — in your own plant — without obligation. Arrange it now by filling in the coupon.

See us in booth 1349 Plant Maintenance Show, Jan. 25-28, Convention Hall, Philadelphia.

Barreled Sunlight®

ENGINEERED *Paints*

FOR A BETTER LOOKING, LONGER LASTING PAINT JOB AT LOWER COST

BARRELED SUNLIGHT PAINT COMPANY
18-A Dudley Street, Providence 1, Rhode Island

We'd like to get more for our painting dollars . . . tell me more about Barreled Sunlight Paints!

- ☐ Please send me your new "Quick Reference Guide" to Barreled Sunlight Paints.
- ☐ Please have your representative call me to arrange a free "On-the-Wall" Test.

Name.....

Company.....

Street.....

City..... *State*.....

Information For Your Catalog Files

BRASS FITTINGS

A 16-page bulletin describing brass tube and pipe fittings. Catalog 60-2 gives detailed product illustrations and specifcations.

Brabant Brass Manufacturing Co.

Write No. 1 on Inquiry Card—Page 32

DRAINLINES

Bulletin PE-30 describes Pyrex lifetime drainline systems for disposal of corrosive wastes. Contains product and property data, information on making joints and hanging, and a list of available fittings. Includes schematic drawings, tables, and a sample specification.

Corning Glass Works

Write No. 2 on Inquiry Card—Page 32

FASTENERS

A four-page folder describing the HiLife thread. Presents advantages of this type of fastener, including greater cross-sectional area, effective distribution of stresses, and substantial increase in fatigue life.

Standard Pressed Steel Co.

Write No. 3 on Inquiry Card—Page 32

GAGES

Data Unit #360 gives features and technical data on high pressure water gages. Describes advantages of design, maintenance, and service.

Jerguson Gage & Valve Co.

Write No. 4 on Inquiry Card—Page 32

GEARBELT DRIVES

Catalog GB-201-A covers gearbelt drives which combine the flexibility of belt drives with the advantages of chain and gear drives. Contains specifications, design and installation suggestions, engineering data and examples.

Browning Manufacturing Company

Write No. 5 on Inquiry Card—Page 32

HOISTS

Catalog R covers a line of hoist products for overhead handling of loads from ¼-ton through 60 tons. Covers more than 20 kinds of hoists, cranes, and accessory items. Also includes photographs and line drawings.

Harrington Company

Write No. 6 on Inquiry Card—Page 32

PIPE HANGERS

Brochure AG-3 describes self-locking one-piece pipe-hangers. Includes dimensional data for supporting pipes from one-half to eight inches.

Automatic Sprinkler Corporation

Write No. 7 on Inquiry Card—Page 32

PUMPS

Bulletin 1100 describes seal-less pumps for leakproof pumping. The four-page two-color catalog covers design, operation, and selection.

Fostoria Corporation

Write No. 8 on Inquiry Card—Page 32

STAPLERS

A catalog describing air-power staplers. Contains cutaway views and light pattern photos to show air return, high speed piston, and instant valve action.

Paslode Company

Write No. 9 on Inquiry Card—Page 32

STEEL WIRE

Bulletin 203 describes copper-plated steel wire. Lists specifications for gauge tolerances, scope and grade, elongation, resistivity, torsion, bending, wrapping, and ferroxyl tests. Also tabulates various properties.

National-Standard Company

Write No. 10 on Inquiry Card—Page 32

STORAGE RACKS

Bulletin Number 5981 describes material storage rack installations. Photographs illustrate space and labor saving advantages.

Storage Products Corporation

Write No. 11 on Inquiry Card—Page 32

SWITCHES

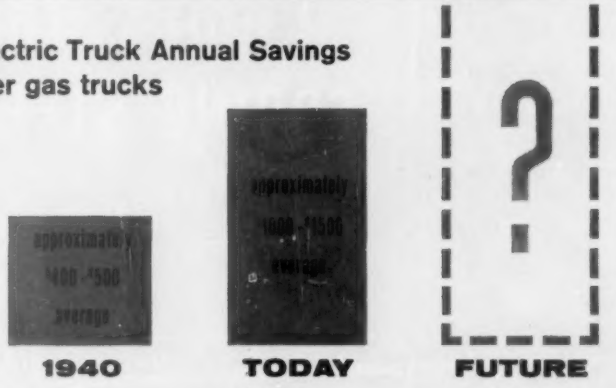
Data Sheet 166 describes two oiltight maintained-contact yoke-actuator switches with electrical capacity of 10 amperes—120, 240, 480 volts a-c. Inculdes photographs, dimension drawings, characteristics, electrical ratings, and price information.

Micro Switch

Write No. 12 on Inquiry Card—Page 32

YOUR ELECTRIC TRUCK BATTERY

Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 20, Pa.



Why miss out on these economies? See how electric truck savings have grown since 1940. You could be saving money right now. And if this trend continues, you can save more every year in the future.

EASE THE PROFIT SQUEEZE

Electric Truck Economy Over Gas Keeps Growing and Growing

Even way back in 1940, Exide-battery-powered industrial trucks were roughly 30% more economical than gas-powered trucks. Today they're roughly twice as economical. And the trend suggests still greater economy in the future.

Inflation has driven the cost of most things up sharply. But in the field of materials handling, it has actually favored electric industrial trucks. Examine the three main ingredients of industrial truck cost: fuel, maintenance and depreciation.

The ingredients of truck cost

The cost of gasoline has gone up about 80% since 1940. But the cost of battery power is still at about the same level. This is partly because the cost of electricity itself has actually decreased. And new batteries and chargers give you more capacity and life per dollar of cost.

Maintenance labor rates and parts prices have gone up for both types of trucks. But electric trucks need less than half the maintenance that gas trucks do. Depreciation has always been lower for electric trucks and still is. This is the result of longer useful truck life—estimated to be from 2 to 3 times as great as that of gas trucks.

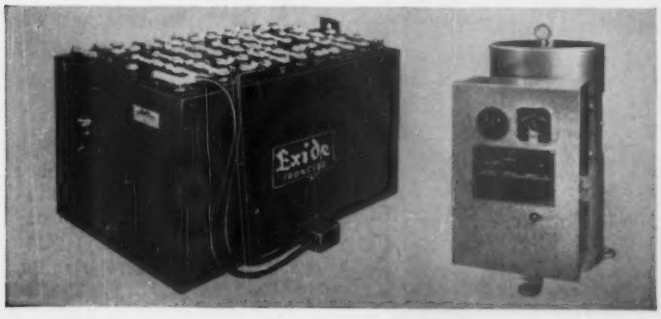
New batteries mean improved performance

Today's electric industrial trucks not only offer greater relative economy than ever before, but also the highest performance ever. The combination of advantages makes them today's best materials handling bargain. Two years ago Exide introduced new improved truck batteries that pack more power into the same space and offer longer life of service. This means that every truck can carry more power capacity for longer work shifts, longer runs, and higher productivity.

Typical savings

Records of thousands of trucks in a wide variety of typical applications indicate that average economies for electric trucks total up to $1500 per truck per year as compared with gas-powered trucks. Why don't you help your company "ease the profit squeeze" by putting electric trucks to work saving you money right now. Exide's plan for leasing batteries and chargers makes it possible to switch with a nominal capital investment.

For data that will assist you in analyzing your own operating costs, write for free copy of 14-page Form 6262

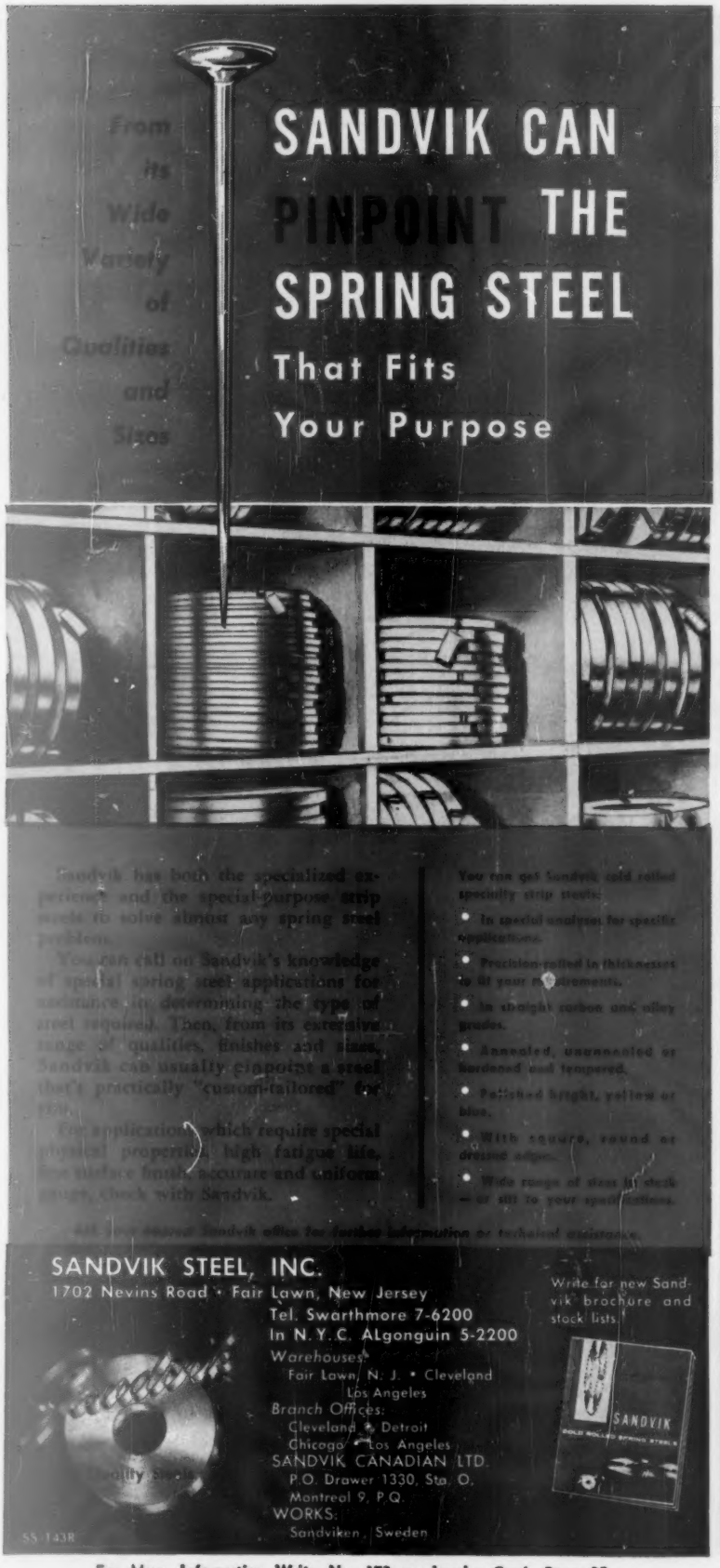


New batteries . . . new chargers. Get the complete Exide power package. 50 years of constant improvement have gone into today's Exide-Ironclad Battery. New materials and advanced construction give it more power and longer life potential than ever. New vertical chargers save ⅔ floor area mounting space. Maintenance is easier and less costly. Get both battery and charger from Exide. Save both ways.

For details on the new Exide-Ironclad Batteries, write for a copy of 8-page Illustrated Brochure 6230

Exide®

For More Information Write No. 172 on Inquiry Card—Page 32



For More Information Write No. 173 on Inquiry Card—Page 32

Catalog Files

TOOL HOLDERS

A four-page bulletin describing full-floating tool holders. Covers three standard types with 51 models: general purpose, tap holder, and threaded adjustable.

Burgmaster Corporation

Write No. 13 on Inquiry Card—Page 32

TRANSFORMERS

Bulletin GEA-6070D gives information on ten major features of distribution transformers. The 24-page catalog describes operation and installation. Includes four-color and black-and-white photos, charts, diagrams, cutaway drawings, oscillograms, and load/life curves.

General Electric Company

Write No. 14 on Inquiry Card—Page 32

TRUCKS

A folder outlining advantages of trucks engineered and manufactured for specific plant and warehouse materials handling problems. Describes a variety of trucks and accessory units.

Palmer-Shile Company

Write No. 15 on Inquiry Card—Page 32

VALVES

Catalog 60 Covers industrial valves and lubricating devices. The 500-page bulletin features an illustrated indexed 24-page valve selection and over 100 pages of engineering data. New products listed includes bronze globe, PVC, and forged steel gate valves.

Lunkenheimer Co.

Write No. 16 on Inquiry Card—Page 32

WELDING HELMETS

Bulletin 35-H covers fibre glass welding helmets. Also includes information on replacement parts.

Sellstrom Manufacturing Co.

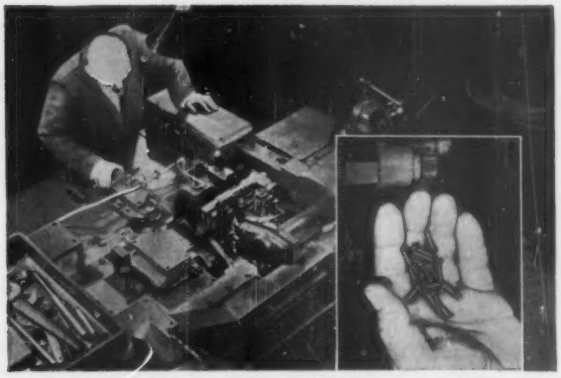
Write No. 17 on Inquiry Card—Page 32

Which picture do you fit?

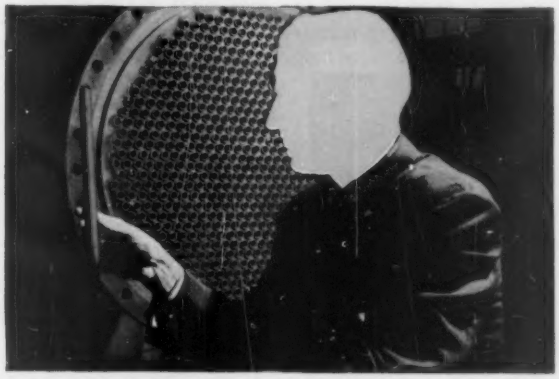
Here are four *actual* customers* with different, but exacting product and technical needs. One uses Bridgeport rod in a range of alloys, the second Bridgeport strip. A third makes fasteners from Bridgeport Brass wire. The fourth company uses Bridgeport condenser tubes *and* Technical Service to produce quality heat exchangers. Which picture do you fit with your raw materials and manufacturing requirements?

"AUTOMATIC QUALITY," says Customer A. "We've a high-volume, automatic screw machine operation. Our alloy needs vary from job to job. Our production schedules demand *consistent* quality alloy and accurate gauge. With every rod alloy we get from Bridgeport, we get what we order . . . including aluminum alloys!"

"LONG-LENGTH COILS. They're one reason why we can depend on Bridgeport for strip," says Customer B. "Superior surface finish from Bridgeport saves us production costs. With their Sendzimir mill finish and exact gauge and width in long-length coil, you can see the reasons why we depend on Bridgeport for brass, copper and aluminum strip."



"CONSISTENT GAUGE. We need Bridgeport quality brass wire to make thousands and thousands of fasteners of every description," says Customer C. "High-speed, volume cold-heading production is only as good as the alloy wire that's used. Bridgeport Brass wire is made to exact tolerances for cold-heading at high speeds—we depend on it."



"PRODUCT PLUS SERVICE," says Customer D. "We manufacture heat exchangers for many applications. Our requirements include good technical and engineering service as well as a wide choice of brass, copper and aluminum tube alloys. All of these are available from Bridgeport."

*Names on request

These examples typify national metalworking opinions. There's no mystery why manufacturers the country over depend on Bridgeport—Bridgeport products and service are *close at hand.* The many brass, copper and aluminum alloys made by Bridgeport in rod, tube, wire and strip are *readily* available from stocks in your area; Bridgeport warehouses are located to make it easy for you to get what you want on time. Volume needs are mill-delivered. Your call to your nearest Bridgeport Sales Office, or a letter to Dept. **3701** will get you engineering and technical service. Try it, and you'll agree —you do fit into the picture!

Bridgeport Brass

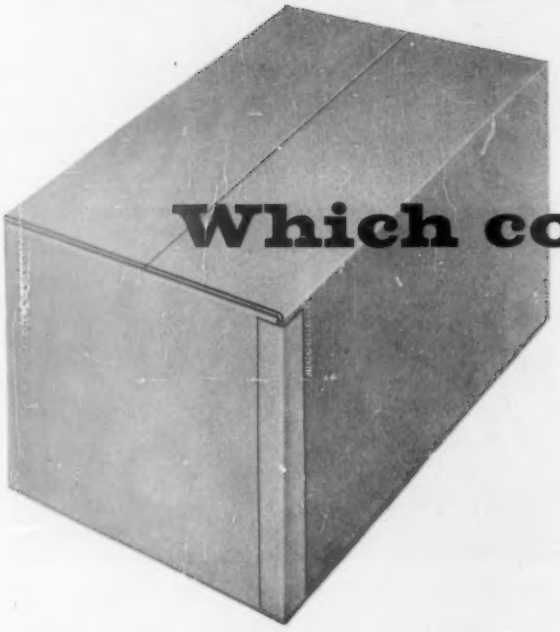
BRIDGEPORT BRASS COMPANY

Bridgeport 2, Conn. • Sales Offices in Principal Cities

Specialists in Metals from Aluminum to Zirconium

For More Information Write No. 174 on Inquiry Card—Page 32

What you should know about "manufacturer's joints" in Union Boxes.



Which corner of a box

One corner is more important than the rest: where your corrugated shipping container is held together. This "hinge", or manufacturer's joint, often holds the key to your box's performance.

As the illustrations show, manufacturer's joints comprise three basic types: taped, stitched, and glued-lap. Each does a special job. Knowing which to use, and when, calls for a detailed analysis of your product and how it will be shipped.

Union Box engineers will be glad to make such a study for you. This is part of Union's complete structural design service. These fundamentals, however, are excellent guides:

Many shippers prefer tape

Taped Joint (outside)

Tape is generally gum-backed, reinforced kraft paper or cloth, having high tear strength, especially in the lengthwise direction. Tapes are 2, 2½ and 3 inches wide and come in varying grades depending on degree of strength required.

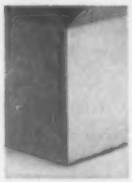
should you examine first?

Advantages: no projections. In stacking, boxes lie flat, rock less. Also, entire interior area of box can be used. The taped joint is continuous, too . . . seals out dust and dirt. And it folds to make a true box corner.

On the other hand, tape is frequently more expensive than other manufacturer's joints. It can be adversely affected by moisture also. In some cases, tape may interfere with printing.

The sturdy stitch

Frequently used for heavy items like canned goods, this joint uses steel staples driven from the outside of the box panel. It is probably the strongest "hinge", gives the most positive closure, and is not affected by moisture or cold. It is usually the least expensive.



Stitched Joint (outside)

The closure, however, is not continuous. And, since the metal stitches may protrude inside the box, this joint is normally not recommended for fragile and prone-to-scratch articles.

The diagonal stitched joint shown is a typical arrangement. Others include vertical, horizontal, and double stitching.

Glued lap . . . the versatile joint

Flap may be adhered either to the inside or outside of the box, and to the end or side panel. Inside-flap gluing is the most popular. It is the only joint which leaves a completely uninterrupted exterior printing surface.

Like the taped joint, the glued lap joint is continuous . . . forms a true fold. Performance under adverse moisture conditions is questionable. Also, inside-lap does not give 100% clear inside-packing area.

Glued Lap Joint (inside)

Take full advantage of Union's accumulated knowledge in constructing and recommending manufacturer's joints for shippers in every industry. Consistently well-engineered features such as these offer the surest protection for your product and your shipping investment.

union camp

Write for Union's free, informative booklet "Manufacturing Corrugated Boxes."

UNION BOXES

UNION BAG-CAMP PAPER Corporation
233 BROADWAY, NEW YORK 7, N. Y.

Factories: *Savannah, Ga.; Trenton, N.J.; Chicago, Ill.; Lakeland, Fla.*

Sales Offices: *Eastern Division—1400 E. State Street, Trenton, N.J.*
Southern Division—P.O. Box 570, Savannah, Ga.; P.O. Box 454, Lakeland, Fla.
Western Division—4545 W. Palmer, Chicago, Ill.

For More Information Write No. 175 on Inquiry Card—Page 32

Purchasing People In The News

Donald C. Ross has been named purchasing agent for **The Hickok Electrical Instrument Company,**

Donald C. Ross

Cleveland, Ohio. He was formerly purchasing agent for The Gas Machinery Company of Cleveland.

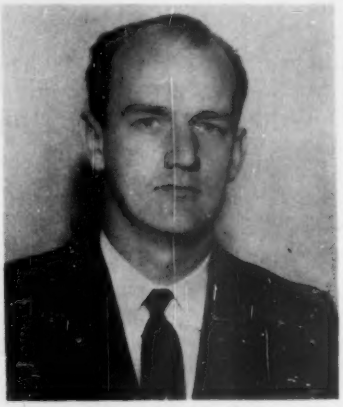
Rohm & Haas Company, Philadelphia, Pa., has announced the appointment of **John C. Haas** as director of purchases and traffic. Mr. Haas had been serving as vice president in charge of industrial relations. He succeeds **Dr. Peter J. Clarke,** former director of purchases, who died on September 17.

The Geo. Worthington Co., Cleveland, Ohio has named **A. J. Rosalina** as a buyer, specializing in tool purchases. Mr. Rosalina

A. J. Rosalina

joined Worthington in 1934. His experience includes service in the Eastern-Western sales department, as Northern Ohio division manager and sales representative in the Ohio Valley-Tri-State area. Prior to his new position, he was eastern district sales manager.

Weber Showcase & Fixture Co., Inc., Los Angeles, Calif., has announced the appointment of **Frank Fresh** as director of pur-



Frank Fresh

chasing. He replaces **Robert Hesketh** who recently resigned. Mr. Fresh started work for Weber in 1948 as an apprentice cabinet maker. He moved up to the detail department, the estimating department, and then became head estimator. He retains his position as head estimator as well as being the director of purchasing.

Keith Douglas has been appointed purchasing agent for **Hoffman Laboratories Division, Hoffman Electronics Corporation, Los Angeles, Calif.** He succeeds **John F. Pullo, Jr.,** who has resigned. Mr. Douglas was previously buying supervisor for the Laboratories Division. In his new position, he will administer the buying and purchasing polices of the division, reporting to **Mr. Gingrich,** director of materiel.

K. E. Winslow, has been appointed division purchasing agent for the **Spring Division, Eaton Manufacturing Company, Detroit,**

K. E. Winslow

Mich. He succeeds **L. A. Kruger** who has retired after 38 years with the company. Mr. Winslow has been with Eaton since 1948. Before that he was associated with the Square D Company and Budd Manufacturing Company in purchasing capacities. He is a graduate of Brown University.

Frank Kutscher has been named a buyer for **Braniff International**

Frank Kutscher

Airways, Dallas, Texas. Mr. Kutscher has been with the company for 13 years.

For More Information about ad on facing page Write No. 176 on Inquiry Card—pg. 32→

Who Buys Roebling Upholstery Spring Wire After You Do?

The end-user can hardly be expected to know a great deal about Roebling helical spring wire, border and brace wire, zigzag and no-sag wire, wire for automatic machines, lacing wire . . .

Thus, the qualities of uniformity, temper, tensile strength, size and finish that are yours whenever you use Roebling Spring Wire mean long life, resiliency under constant use (and abuse) where it counts the most . . . to those who buy Roebling Upholstery Spring Wire after you do.

For further information on the wide range of types, the consistent superiority and availability of these and other Roebling wire products, write Roebling's, Wire and Cold Rolled Steel Products Division, Trenton 2, New Jersey.

Roebling...Your Product is better for it

ROEBLING

Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation

MORE SKILL
in
EVERY HAND

Make rugged jobs smooth

Billings Shop Tools are made to smooth out rugged jobs—to make production lines move easier for skilled hands. They're designed for practical utility, drop forged to develop the utmost strength and are guaranteed by Billings. "C" CLAMPS are only one of the many labor saving Shop Tools in the Billings line. Billings selected distributors also stock **Adjustable Strap Clamps, Ball Pein Hammers, Spanner, Striking Face, Tool Post, Check Nut and "T" Handle Wrenches; also Socket Sets and Handle Parts in popular size drives** ...*skilled hands like to use Billings Tools.*

BUY 'EM
from your
BILLINGS DISTRIBUTOR

BILLINGS
WRENCHES
SHOP TOOLS

Since 1869 Tools and Forgings of Quality

THE BILLINGS & SPENCER CO.
HARTFORD 1, CONN.

For More Information Write No. 177
on Inquiry Card—Page 32

Letters To The Editor

WHERE AND WHEN

Dear Sir:

Will you kindly advise me of the dates and also the name of the city where the mid-winter Public Utility Buyers Conference will be held?

R. M. Logan
Purchasing Agent
Union Gas Company of Canada
Chatham, Ontario

• *The Public Utility Buyers Group will hold their annual conference in the Atlanta Biltmore Hotel, Atlanta, Georgia on January 31 and February 1.*

ANOTHER MAN'S OPINION

Dear Sir:

In the November 9th "Letters To The Editor", H. H. Stewart of Canadian Wire & Cable Company asks a question with respect to what should be included in the "cost of a purchase order," suggesting that the figure "proves nothing" but that "a decision might be arrived at taking this figure into consideration."

If you first define the "decision (that) might be arrived at,"—the use you're going to make of your "cost of a purchase order"—you will provide the answer as to the factors that should be included. I can't agree to the broad statement that the figure "proves nothing."

For example, there is "cost of a purchase order" as used in inventory control formulas. It's a special sort of a number used to compare the costs of carrying inventory versus the cost of ordering in making order quantity decisions.

In this case you are looking for all the factors that vary with the number of orders placed, irrespective of the department involved. You deliberately exclude such non-variables as the purchasing agent's salary. This "cost of a purchase order" can be calculated with reasonable accuracy and is a fairly stable number that changes only with basic system changes.

You might want the "cost of a purchase order" to portray the ratio of total departmental costs to the number of orders written. This is a fairly common guide along with such others as total cost "per dollar of sales," "per dollar spent," "per requisition," or "per unit of factory output." These costs are usually less stable than the inventory figure and conclusions are usually drawn from their changes rather than their absolute values. Whether or not you cross departmental lines depends upon whether you're studying the purchasing department alone, or the acquisition function in total.

You might develop another "cost of a purchase order," including only costs controllable by the purchasing executive. In this case, many burden and fringe items would be excluded.

The definition of the "cost of a purchase order" is an individual problem in each case. There is no way to generalize the problem into broad conclusions as to what should or should not be included. It is useful or not as you understand its makeup and anticipate its reaction to various influences.

J. Evert Welch
Minneapolis-Honeywell
Regulator Co.
Minneapolis, Minn.

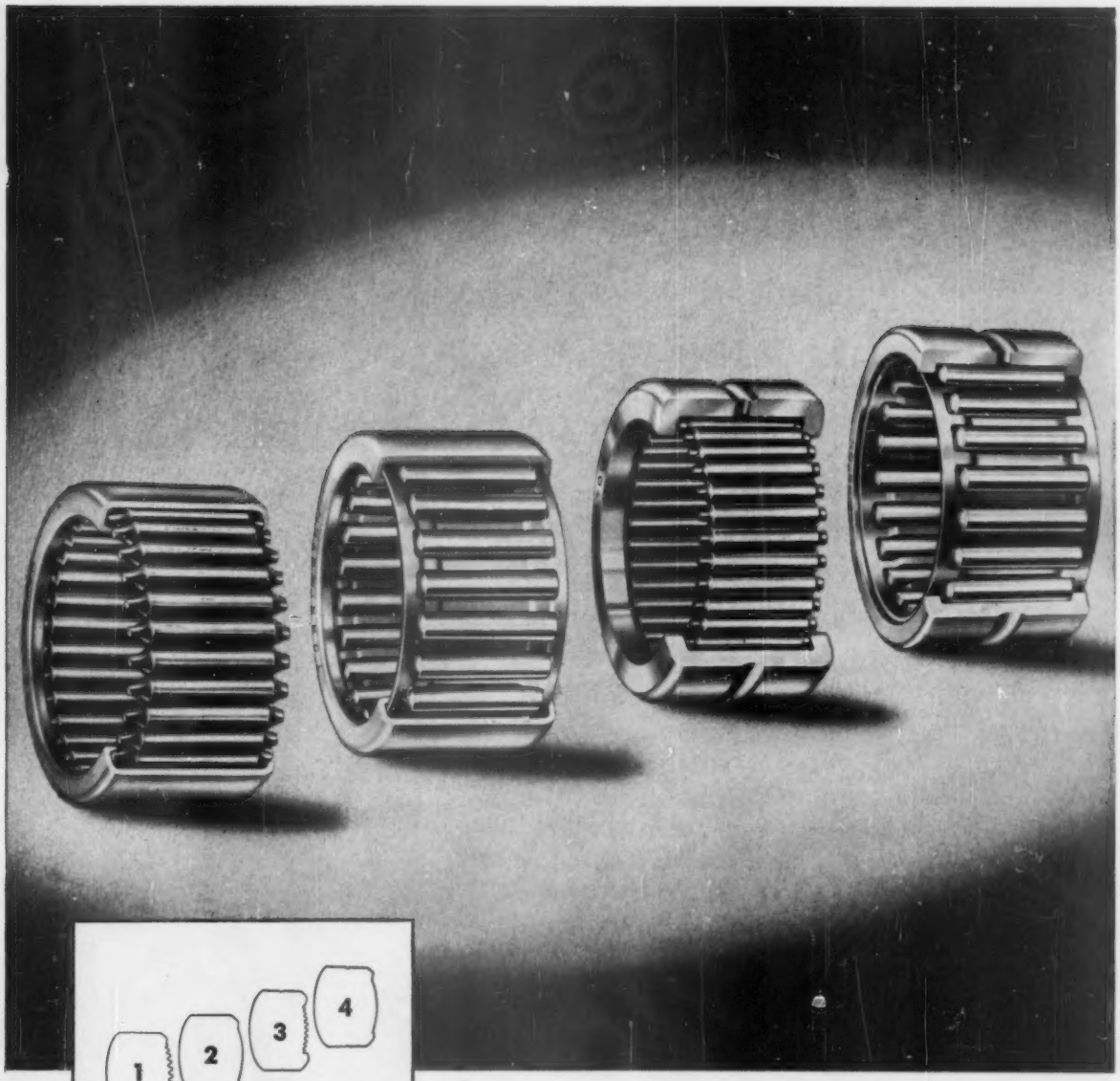
NOW IS THE TIME FOR ALL GOOD MEN

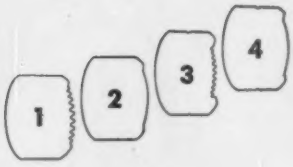
Dear Sir:

I want you to know that I feel very strongly about your editorial "Give—Until It Hurts," which appeared in the November 23 issue.

It certainly makes splendid reading and I feel was timed correctly. Keep up the good work.

H. C. Brown
Purchasing Agent
Joy Manufacturing Co.
St. Louis, Missouri





Torrington Drawn Cup Needle Bearing ... for maximum radial capacity in minimum cross section ... positioned by press fit—snap rings or shoulders unnecessary ... runs directly on hardened shaft ... most compact, light weight, economical.

Torrington Drawn Cup Roller Bearing ... for higher speeds or long pregreased life ... thin section race for simple press fit ... runs directly on hardened shafts ... unit construction for easy assembly ... shaft-riding retainer.

Torrington Heavy Duty Needle Bearing ... for use with thin section or split housing where extreme impact loads require heavy outer race ... maximum shock resistance ... full roller complement ... unit construction.

Torrington Heavy Duty Roller Bearing ... for combination of high speed, long pregreased life or shock resistance ... roller stability provided by end-guiding ... flange-riding retainer ... unit design.

All of these types of bearings are available with inner races

Only Torrington Makes All Four!

Torrington developed the Needle Bearing and its specialized variations. This breadth of experience assures impartial engineering recommendations based on specific application requirements. You can rely on Torrington to recommend the most compact and economical design compatible with operating conditions and performance requirements. Call on your Torrington representative for help in applying the right bearing in the right place. **The Torrington Company, Torrington, Conn.—and South Bend 21, Indiana.**

TORRINGTON BEARINGS

Every Basic Type of Anti-friction Bearing

NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • CYLINDRICAL ROLLER • NEEDLE ROLLERS • BALL • THRUST

For More Information Write No. 178 on Inquiry Card—Page 32

Persons in the know
are specifying fuses

HATFIELD Electric Co.,

a leading electrical contractor,
installs—

FUSETRON dual-element Fuses

in its new office building

Mr. Brown, Vice-President tells why . . .

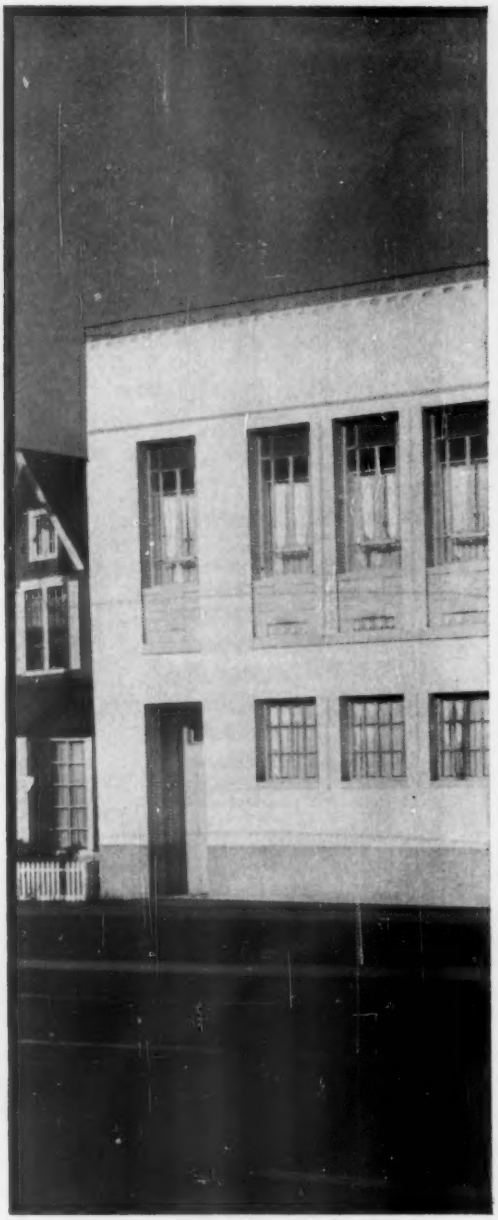
"For our own buildings and our recommendations to our industrial and commercial customers, we feel that FUSETRON fuses are the most reliable means of over-current protection that has been made available to us.

"We require protective devices for industrial and commercial application that not only provide adequate short-circuit protection but also protect against needless blows. In dead-front panel equipment it is especially desirable that they operate cool and efficiently. Of course FUSETRON fuses provide this.

"The additional protection features of these devices are of continual interest to our customers, and we feel their use is to our mutual benefit.

"As a matter of further interest, we are remotely mounting the fluorescent ballasts throughout our own offices and adding your fuse blocks with indicating FUSETRON fuses for better protection and lower maintenance."

William L. Brown,
V. P. HATFIELD ELECTRIC CO.
CLEVELAND, OHIO



This Hatfield Electric Co. installation underscores the need for . . .

LIFE-TIME DEPENDABILITY AND HIGH INTERRUPTING CAPACITY IN A MODERN PROTECTIVE DEVICE — *You Get Both With* FUSETRON Fuses . . .

THERE IS A BUSS OR FUSETRON FUSE FOR EVERY ELECTRICAL NEED

SAFE PROTECTION THROUGH THE YEARS . . .
without maintenance or recalibration costs.

FUSETRON fuses remain safe and accurate because, unlike mechanically operated devices, they have no hinges, pivots, latches or contacts to stick or get out of order.

FUSETRON fuses are *calibrated at the factory by engineers.* Once properly installed, they require no maintenance — no periodic inspection and accompanying down-time.

PROTECT AGAINST HIGH FAULT CURRENTS

A modern protective device must provide protection against today's heavy fault currents — and be able to protect against even greater fault currents that might develop in the future.

You get this protection with FUSETRON fuses. FUSETRON dual-element fuses have an interrupting rating of 100,000 amperes rms symmetrical.

Electrical Protection goes MODERN with FUSETRON fuses because they are adequate for today's conditions and for anticipated growth in service demands.

For More Information on FUSETRON dual-element fuses . . . Write for bulletin FIS

BUSSMANN MFG. DIVISION, McGraw-Edison Co., St. Louis 7, Mo.

For More Information Write No. 179 on Inquiry Card—Page 32

SPEED-BAND®
the newest concept in band saw blades—made from L-100-M, a double carbide alloy developed *especially* for band saws. Its hot hardness and abrasion resistance effect extraordinary results.

Available only from Capewell Distributors, of course

INDUSTRIAL DISTRIBUTORS
THE RIGHT HAND OF PRODUCTION

CAPEWELL

THE CAPEWELL MFG. CO.
HARTFORD 2, CONN.

For More Information Write No. 180 on Inquiry Card—Page 32

FOB—"filosofy of buying"

NEWS HEADLINE of the month, from a release issued by The Business Goodwill Advisory Council (a "non-profit research organization supported by gift-conscious sales managers, the business gift industry's two national trade associations and the industry's trade information service") just before Christmas:

"PAYOLA SCANDALS SHARPEN BUSINESS GIFT BUYING"

• •

A GOOD INSTANCE of how incomplete specifications slow down the forward march of commerce and industry was revealed recently in an exchange of correspondence between Pan American World Airways and our own Executive Editor Dean Ammer. On his return from a trip to Europe last July, Dean (a man of delicate taste and impressive appetite) sampled some delicious cheese on a PAA flight. He promptly wrote to PAA's commissary department, asking the name and source of the cheese.

Not until November 25 did he get an answer. PAA hadn't neglected him. It was just working diligently to get an answer. "We have solved the mystery of the cheese from Normandy," wrote Mr. P. J. Parrott, commissary superintendent. "It is called Demi-Sel, manufactured by Pommel, and is a cream type cheese. The reason we were unable to answer your question immediately is that our specifications for this item call for cream cheese and we had paid no attention to its source."

• •

STANDARDIZATION continues to make news. Lieutenant Luther Beaver (can any ex-G.I. guess what his nickname is?), a textile engineering officer with the U.S. military assistance group on Formosa, has won a Quartermaster award for finding the right-size blanket to cover Nationalist Chinese soldiers. Seems the far eastern doughboys had been getting blankets from many different sources in Taiwan, Japan, and U.S. By persuading Nationalist supply officers to standardize on dimensions, Beaver helped cut costs by $270,000. Since most of the blanket orders were being paid for by U.S. anyway, American taxpayers will benefit. It might not lower taxes much, but it's a start.

Donald I. Rogers, business and financial editor of the *New York*

"Well—what are you selling?!!"

Herald Tribune, takes a slightly different view of standardization. More in sorrow than in anger, he moans, "As a possessor of a pair of size thirteens, I have been buying king size shoes ever since I was a lad . . . The subject of size, generally, leads me to criticize the stylists and producers of our standardized nation who take no account of folks who grow a little larger than their fellow men. I've been paying a premium for everything I wear ever since just because I'm not standardized sufficiently to meet the standardized styles produced by our standardized machines."

As a 6'3"er whose size 12s have dangled over the ends of dormitory and barracks beds, the Old Filosofer agrees with you, Don. But then, what about all the little guys—the 32 shorts, the size 8s—who have to pay the same price for shoes, suits, etc. that we do? It takes half a cow to make a pair of brogans for you or me and only quarter of a cow to make them for a jockey, for example. Yet the little guy has to make up the difference to give the shoe manufacturer a fair profit. Is this justice?

• •

LOOK, MA, no P.A.! The sharp pickup in steel demand since the end of the strike has turned up a new (but perhaps not so new) wrinkle in expediting, according to the *Wall Street Journal.* Corporate brass is taking over as expediters to speed steel shipments, the newspaper reports. It quotes a supplier: "It's been a long time since corporate chairmen and presidents called us to urge that ordered steel be delivered on time. But last week most of the executives in this area stepped into the role of purchasing agent to give us calls."

We have a vague feeling there's some kind of a triple-decker story there—something like "Expediting Takes Up Top Management's Idle Time, Cuts Paperwork, Frees Purchasing for Creative Buying"—but maybe we'd better drop the whole thing. We'd be read out of the Society for Crisp Writing for running a head that long.

WIRE CLOTH PARTS

Wire cloth parts fabricated to your order are a Newark specialty. One division of our company is fully equipped and staffed to manufacture *any* part you need with a wire cloth insert.

We also offer an engineering service to assist you in design or redesign of your parts. Ours is a "one-stop" service . . . we deliver complete parts guaranteed to meet your specifications. Send for our Fabricated Parts Catalog.

NEWARK for ACCURACY

Newark Wire Cloth COMPANY

351 Verona Avenue, Newark 4, New Jersey

For More Information Write No. 181 on Inquiry Card—Page 32

NOW...

your UDYLITE nickel brighteners come in this new RIP-OPEN PACKAGE for greater speed and SAFETY!

This new Udylite carton provides you with a handy replaceable lid that fits snugly back on the box to keep out dirt and protect the remaining bottles.

This new Rip-Open packaging, just introduced by Udylite, is typical of the attention we feel is due small details. Speedy and easy is the opening job when, with a roundhouse *rip* of the tear-off strip, your carton of Udylite brightener containers is open . . . neatly and evenly.

Here is one more example of why it pays to deal with Udylite—where you can be sure of getting first rate plating supplies of a quality and price that you know you can depend upon. And always at Udylite you find the respect for fine points of performance that makes this the finest plating supply service. If Udylite isn't already your source, investigate now the advantages of dealing with

the udylite corporation

detroit 11, michigan

world's largest plating supplier

For More Information Write No. 182 on Inquiry Card—Page 32

Highlights of This Issue

Where Are We Heading?

We have come to the end of a year, the end of a decade, and perhaps the end of an era. But it's characteristic of purchasing people, despite their supposed conservatism, to look ahead, not back. That is what we're doing in this issue, with a group of articles on what's ahead for the purchasing executive in the important years coming up.

Editor Paul Farrell takes a look at the present state—actually, states—of purchasing, the demands that will be put upon it from now on, and how it can best prepare itself to meet these demands. His comments synthesize these specialized articles. **See page 50.**

A. M. Kennedy, Jr.'s description of the purchasing man of the future—The Westinghouse vice-president describes the education, skills, and attitudes purchasing agents will need in the age of technology we are now entering. **See page 54.**

Executive Editor Dean Ammer's analysis of the material manager's role in forecasting future company costs—He offers specific instructions on how to make accurate forecasts using the "key parts" concept. **See page 57.**

Louis J. DeRose's explanation of the basic facts of marketing—The noted consultant reviews each important aspect of the job of getting a company's products sold and points out the need for the purchasing participation. **See page 61.**

Larry Miles' plea to purchasing agents to mine the golden profits in value analysis—General Electric's "father of value analysis" draws on his unique experience and knowledge to help you exploit the most significant new buying technique developed in recent years. **See page 64.**

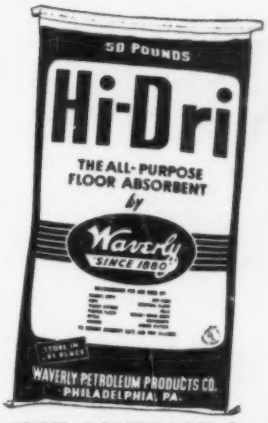
Senior Editor Stuart Heinritz's challenge to purchasing to take an aggressive, constructive approach to its job in industry—In a fitting close, Mr. Heinritz declares that *now* is the time to face up to the broader, deeper responsibilities that have been placed on purchasing. **See page 67.**

The Business Outlook

Martin Gainsburgh, chief economist of the National Industrial Conference Board, gives an exclusive analysis of the business outlook for 1960. **See page 70.**

You get MORE
for your money with
WAVERLY

Hi-Dri



• MORE COVERAGE—by actual test, WAVERLY HI-DRI will cover up to 33⅓% more floor space than competitive products.

• MORE ABSORPTION – HI-DRI is thirstier than ordinary absorbents. In every 50 lb. bag, there are more than 37 million highly absorbent granules – to soak up oil and grease faster.

• MORE SAVINGS – because HI-DRI goes further and works harder than other products, you save up to one-third of your costs.

• MORE SATISFACTION—and you can prove it! Test HI-DRI in your own plant. Call or write for a generous FREE sample.

WAVERLY
PETROLEUM PRODUCTS CO.
3018 Market Street
Philadelphia 4, Pa.

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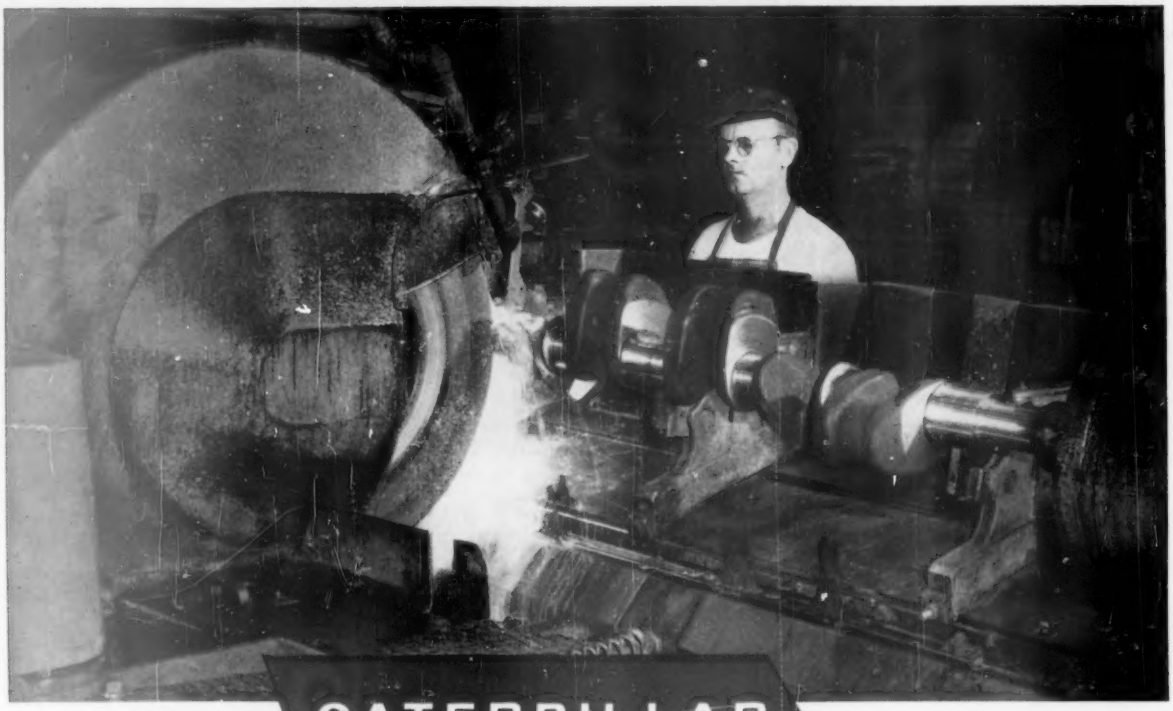
OK . . . for precision grinding at high production speeds

SIMONDS ABRASIVE CO.

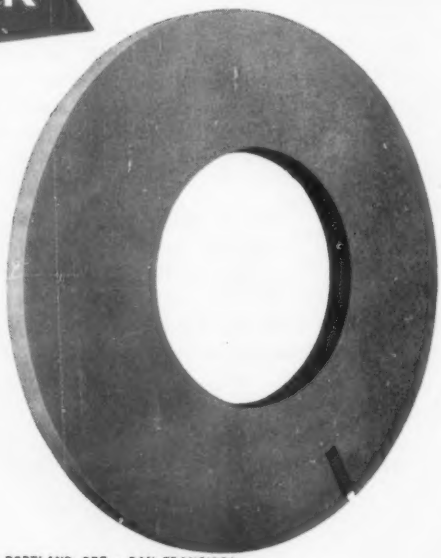
CRANKSHAFT GRINDING WHEELS



ON THE JOB AT Simonds Wheel used on crankshaft grinding at Caterpillar Tractor Co. Plant, Peoria, Ill.

CATERPILLAR
REG. U. S. PAT. OFF.

Fast and free-cutting these wheels hold up well on the corners, maintain radii and need only the minimum of dressing. Also supplied in matched, counter-balanced sets for multiple spindle set-ups . . . with each wheel marked with set number and with red stripe for accurate line-up on the spindle. Typical specifications for main or line bearings, JA543-05-V1 (multiple set-up) . . . for pin bearings, JA543-Q5-V1 (single wheel set-up). Write for Bulletin ESA 263.



SIMONDS ABRASIVE CO.
PHILADELPHIA 37, PENNA.
Division of Simonds Saw and Steel Co.
COUNT ON YOUR SIMONDS DISTRIBUTOR FAST SERVICE • LOCAL STOCKS

WEST COAST PLANT: EL MONTE, CALIF.—BRANCHES: CHICAGO • DETROIT • LOS ANGELES • PHILADELPHIA • PORTLAND, ORE. • SAN FRANCISCO SHREVEPORT—IN CANADA: GRINDING WHEELS DIVISION, SIMONDS CANADA SAW CO., LTD., BROCKVILLE, ONTARIO • ABRASIVE PLANT, ARVIDA, QUEBEC

For More Information Write No. 184 on Inquiry Card—Page 32

One Day Follows Another

MOST OF THE articles in the following pages deal with new ideas and new techniques in procurement—the purchasing world of tomorrow, so to speak. They are meant to alert purchasing agents to their responsibilities and opportunities in a rapidly changing economy.

But it's good for us to have our eyes on the horizon only if our feet are solidly on the ground. The progress we're making in management will turn out to be no progress at all unless we make sure our own house is in order before plunging ahead. Are you doing your day-to-day job in a practical way while planning or dreaming of the future?

One way to check on yourself is to dig up an old custom—making New Year's resolutions—and apply it to your business habits. Then at the end of each day or week in the coming year make an honest appraisal of how well—or poorly—you're living up to your resolutions.

The resolutions bit never proved too successful when personal habits were involved (which is probably why the idea has become something of a joke.) But how much of a joke do you think it would be if you found yourself failing, day after day, to live up to these resolutions, for example, in 1960:

- To investigate and resist as much as I possibly can every actual or proposed price increase on items I buy;
- To do a real value analysis job on my own department—questioning the purpose of every operation we perform, every piece of paper we handle, and ruthlessly eliminating unnecessary cost.
- To spend less time—and have my buyers spend less time—on detail by assigning clerical duties at the lowest practical level in the department;
- To delegate more responsibility to my buyers—freeing myself for more executive action while further developing their skills and management potentialities;
- To expose myself and my buyers to more purchasing education in the form of selected reading, training sessions, and the numerous meetings and services of the National Association of Purchasing Agents;
- To use the value approach on each important supplier: What new or additional value has he contributed recently? What greater value can I expect from him this year? Have I given him the chance to present new ideas? Does he take our business for granted or have I impressed him with the fact that I'm quite capable of shopping around?

You add some others. There are plenty that will occur to you during a normal business day. Then try to stick to them during the routine course of your business. At the end of each day you'll find yourself a lot closer to the goal ahead.

Paul V. Farrell

PURCHASING MAGAZINE
JANUARY 4, 1960

in this zone, stainless steels that remain ductile with high strength and stability

In the search for favorable strength-to-weight ratio, high temperature alloys have been developed with extreme strength up to 1000 F, but at the expense of ductility.

In AM 350 and AM 355, Allegheny Ludlum's precipitation hardening stainless steels, you have high hardness and stability from room temperature to 1000 F, plus almost twice the ductility!

These advantages are followed by easy formability using normal techniques. AM 350 and AM 355 can be brazed and welded as easily as the common stainless steels. They can be spun, formed and machined without special preparation.

AM 350 is available commercially in sheet, strip, foil, small bars and wire. AM 355, best suited for heavier sections, is available commercially in forgings, forging billets, plates, bars, wire, sheet and strip.

For further information, see your A-L sales engineer or write for the new technical booklet, "AM 350 and AM 355." **Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Penna.**

ALLEGHENY LUDLUM

AL

EVERY FORM OF STAINLESS . . . EVERY HELP IN USING IT

For More Information Write No. 185 on Inquiry Card—Page 32

GET SUPPLIERS ON THE LINE—Why not put vendors' telephone numbers on your traveling requisitions? If you're in a hurry to check on prices, for example—you won't have to go fumbling through files or telephone directories. Another good spot for a telephone number—yours in this case—is on your purchase order. It cuts delays when problems pop up.

IS THAT SLIP NECESSARY?—Many P.A.'s have found that the only reason they have an acknowledgment copy in an order is that someone put it there years ago. Is yours really necessary? You stay on top of critical items all the way anyway—and growing numbers of suppliers are careless about acknowledging. You'd be surprised at how much time and money you'll save by having one less form to file.

FOR THOSE WHO CAN'T SPELL—Art Metal Construction Co. reports that a purchasing agent estimated the cost of corrections and letter retyping caused by misspelling and found that his company would save money by having a dictionary in a place convenient to all secretaries and stenographers. Exposure to the book will also help enrich the vocabularies of those who dictate the letters.

HANDY SUPPLIERS FILE—Connecticut Hard Rubber Co., New Haven, has eliminated a couple of operations in making up its suppliers file. With a letter asking for basic information goes a self-addressed postal card with space for name, address, telephone, contact, etc. Supplier simply drops card in a mailbox. Cards are promptly filed alphabetically by purchasing.

SPEED STOCK HANDLING—Sister Rose Therese, Pioneers Memorial Hospital, writing in the Catholic Hospital Association purchasing bulletin, suggests building shelves accessible from both sides for fast-moving stock. As new stock is received, it is pushed on to to the shelf, older stock is pushed back and disbursed from the other side. This eliminates effort of switching stocks back and forth.

PUBLIC RELATIONS IN PARKING—If you have any voice in the layout of the company parking lot suggest that the spots that usually go to the top brass be reserved for visitors. This has a tremendous public relations effect on vendors who usually have to walk long distances through puddles, etc. to get to your reception room.

Where Is Purchasing Going?

Purchasing has broken out of the narrow area of responsibility it was confined to in former years. The dimensions of the buying job are expanding rapidly. A new type of executive with new ideas and techniques is needed to develop fully purchasing's potential for profit.

By Paul V. Farrell, Editor

IF SOME BOLD prophet were to suggest that the purchasing agent is becoming extinct, he might seem hard put to defend his ideas. First, he would have to overcome the outraged reaction of those who bear that by now respected title. Then he would have to explain away some of the facts of business history.

Let us put emotion aside, however, and consider the argument in the light of purchasing's present position in industry. At the beginning of the sixth decade of purchasing's existence as a basic activity of business, its prestige has never been greater. Its authority and responsibility have expanded to where the buying executive today hardly resembles the harried hired hand of another day.

Few, if any, managements look upon the purchasing department as many used to—as a dumping ground for faithful mediocrities or hapless relatives. Purchasing is considered a key spot for some of the most promising men in industry.

"The Buyer Doesn't Produce"

Less than fifty years ago a respected magazine could say, "Who ever heard of a buyer resigning any job that paid more than coffee and doughnuts!? The salesman is a producer . . . but not the buyer." Most businessmen probably shared the sentiment.

Their tune had changed by the early Fifties. A revolution had occurred in purchasing, as Air Reduction's President John Hill put it. There could be little disagreement about the five basic ideas he said distinguished the new purchasing department from the old:

"Purchasing is not a service function but a profit-making activity . . . Procurement is best handled as a separate and distinct function reporting directly to the chief executive or to some other top-level operating executive . . . The real purchasing job starts long before the specifications or requisitions are written . . . Purchasing needs and deserves highly trained, competent personnel on a par with any other department of business . . . Purchasing should be represented in top operating councils."

It is right here that our prophet's remark about the P.A. becoming extinct is easier to understand. In this case, extinction is not a matter of elimination, but of change. Purchasing has evolved from a primitive state into a higher form of industrial life. During this evolution—or revolution—purchasing has taken on greater and more complex responsibilities than were ever thought to be within its scope (at least by non-purchasing people).

A New P.A. Appears

Inevitably, a new type of executive has developed to handle the job. Although he may have the same title, he hardly fits the popular image of a shrewd, price-buying purchasing agent. The job description may still call for negotiating skill, courtesy, tact, honesty and the other homely virtues. But to it have been added broad education, technical knowledge, administrative ability, and a management perspective—to name a few.

What is the nature of this *new* job? What is it that the *new* purchasing agent has to know and do to perform it properly? What is the scope of this changing purchasing profession?

A look around at some of the better industrial purchasing organizations will give us some idea. The walls of specialization that limited purchasing to the single act of buying have been broken down. Purchasing is being given more authority in those areas which affect procurement and in which it can make real contributions to profit.

Consider for example these trends in industry:

• **Increasing numbers of engineers and technically trained personnel are being brought into purchasing.** The rapid advance of technology and automation calls for the closest kind of communication and understanding between buyer and supplier. A skilled purchasing man with a technical background is in a unique position to see that the best interests of the company are served in such an exchange. The successes a number of companies have had in staffing purchasing departments with engineers has laid to rest the old saw that "it's a waste of talent to bury an engineer in purchasing." Today's P.A. must be prepared to direct a highly technical organization.

Value Analysis Catches On

• **Value analysis has caught on as one of purchasing's most potent cost reduction tools.** After a slow start, followed by a good deal of pushing and hauling, purchasing has finally convinced

management that a specialized, organized value analysis program will bring at least a 10 to 1 return for every dollar spent on it. A rash of value analysis training programs has broken out already and there's every indication that it will spread. Despite some tendencies to shift value analysis responsibility to other functions, purchasing remains the most logical choice to handle it. Any value program is incomplete without the vendor-buyer liaison described above, and this can be maintained only through purchasing. As Stuart Heinritz has said: "The search for value is inherent in the purchasing function. The two are inseparable. For where value is concerned, purchasing will always have the last word."

• **Purchasing agents are becoming, in fact if not in name, materials managers.** The same logic that compelled management to look on buying as more than a routine clerical job has broadened its understanding of the nature of the whole procurement process. If purchasing is responsible for getting material to production at the right time, in the right quantity, etc., it can't stop once the order is signed. It should be involved across the board: in determination of requirements, selection of vendors, expediting, transportation, receiving, storage, and inventory control. And this is what is taking place in a variety of ways in hundreds of companies. It is a fact of life for many P.A.'s. Others might as well prepare now to accept similar responsibilities. In the words of Fred Drake, Air Products Corp., a purchasing executive who holds the job but not the title: "Is purchasing just a phase of materials management? Or is purchasing synonymous with materials management? The question isn't worth haggling over. The important point is that materials must be managed. And in my opinion the purchasing agent is best qualified to do the job."

Purchasing Has the Data

• **Management is relying on purchasing for basic economic information, specific forecasts of prices, and raw material trends.** All sorts of significant data flow—or should flow—into an alert, well-organized purchasing department. More aggressive purchasing agents have never hesitated to sift this data and pass along pertinent facts to the operating heads of the business. This type of information is now expected from purchasing in many progressive companies and such groups as U.S. Steel's purchasing research department have been set up to provide it. Gillette Safety Razor Company has just created the position of manager of materials and source development in the purchasing department. The manager will be responsible for seeking new sources for materials. Gillette buys and investigates new materials that may improve existing or new products. Most purchasing agents supplying this kind of service do not have formal research groups, but the information they collect is just as vital to their managements as it is to those of larger corporations.

• **Purchasing is being called on for cost information long before decisions are made to market certain products.** The purchasing department of one of the large automobile companies, for example, has a 125-man purchase analysis and cost control section. The job of this group is to provide reliable cost data for use in all phases of product development and procurement. Estimates begin prior to product decision and are refined as changes are made during planning and engineering phases of product development. Before a buy is made, analysts provide buyers with sound purchase price objectives on major parts. Data are supplied to product planning, the controller's office, engineering, and the buying sections of the purchasing department. Even in the gigantic auto industry, accustomed to thinking in terms of many millions, the savings achieved by this specialized purchasing unit have been impressive. It's hard to tell yet whether such a cost control approach would be feasible in any other type of industry. But the very fact that it is being done by one company indicates that purchasing still has many new worlds to conquer.

Is the Average P.A. a Failure?

Where does all this leave the average purchasing agent? Is he to be considered a failure because his department is not staffed with engineers who are not only buyers but value analysts, cost estimators, economists, and materials managers as well? Obviously not, since some of the most successful purchasing executives in the country do quite well without getting into some of these areas. David S. Gibson of Worthington Corporation, for example, prefers not to have inventory control under his department's jurisdiction. Yet he has been able to reach top levels of management as vice-president of one of the country's 200 largest industrial organizations. Who needs more recognition than that?

Similarly, a number of purchasing leaders warn against going overboard in bringing engineers into a department simply because of their technical backgrounds. They deliberately recruit *first* people with administrative and negotiating ability. If this is backed up by engineering education, so much the better. But the primary emphasis is on good buyers.

The trends described above should be looked on as some of the "new directions in purchasing" mentioned on the cover of this issue. They should

be examined in the light of individual company conditions and needs. It's possible Company A would be better off with every one of these activities under purchasing's wing. It's possible—but hardly probable—that Company B would operate more efficiently if purchasing had no responsibility for any one of them.

The decision as to which direction purchasing takes is, of course, management's. But decisions are not made in a vacuum. They are made on the basis of facts assembled and evaluated by someone. The purchasing agent cannot sit passively on the sidelines while this process is going on. If he does he is not being fair either to his company or to himself, and deserves little of the recognition we all claim is purchasing's due.

What Do We Do Now?

The situation obviously calls for more positive and aggressive action by purchasing. But what kind? a P.A. might well ask. We've heard over and over again that we must put our own houses in order, free ourselves of clerical detail, make more time for executive action, and act like management if we want to be part of management. We have been regaled over and over with lists of "what management expects of purchasing" and have done our best to live up to those expectations. What else do you expect us to do?

The answer is that perhaps purchasing has been for too long interpreting its obligations in a defensive way. It is right to determine what management expects of purchasing and guide your actions accordingly. But most of us, top industrial executives included, are prone to fall back on tried and tested ways of doing things unless we're goaded by persons or events into trying new ideas or techniques. Thus there is little chance of purchasing being given new responsibilities unless it makes clear to management how such a move would be to the best interests of the company. And this can only be done when the coin has been turned and both parties agree on what purchasing can and should expect from management.

Purchasing Expects Something

Several years ago, H. R. Giese, vice-president of the Sargent Company, talked to the Purchasing Agents Association of Connecticut on management-purchasing relationships. He said that his company was already aware of the profit potential in purchasing. But, he added, awareness is not enough—management must be quite specific in what it will do to enable purchasing to turn that potential into practical results. A number of points in his list of "What Purchasing Should Expect From Management" are pertinent to this discussion. A purchasing agent who wants to move in "new directions" probably will end up nowhere unless these principles are well established in his company:

The purchasing department is entitled to know, and have spelled out most definitely, the extent of its responsibilities;

The purchasing department must be given complete authority and freedom of action within the bounds and limits of its responsibilities;

The purchasng department should be equipped with clearly defined purchasing policies;

It is vital and essential that the purchasing department have complete information as to the overall plans and policies of top management;

The purchasing department should be represented in all production councils. It is necessary that purchasing have complete equality in status with the other major divisions of the operation.

The purchasing department must be given the opportunity to bring to the attention not only of top management, but others in the organization, the many means for the reduction of costs that it develops in its work.

The purchasing department must be given the opportunity to convey to top management information that it is constantly receiving which has a bearing on general business conditions.

These are only about half the points Mr. Giese named. But they are the important ones for a purchasing agent to work on if he really wants to set up a positive program of better purchasing service.

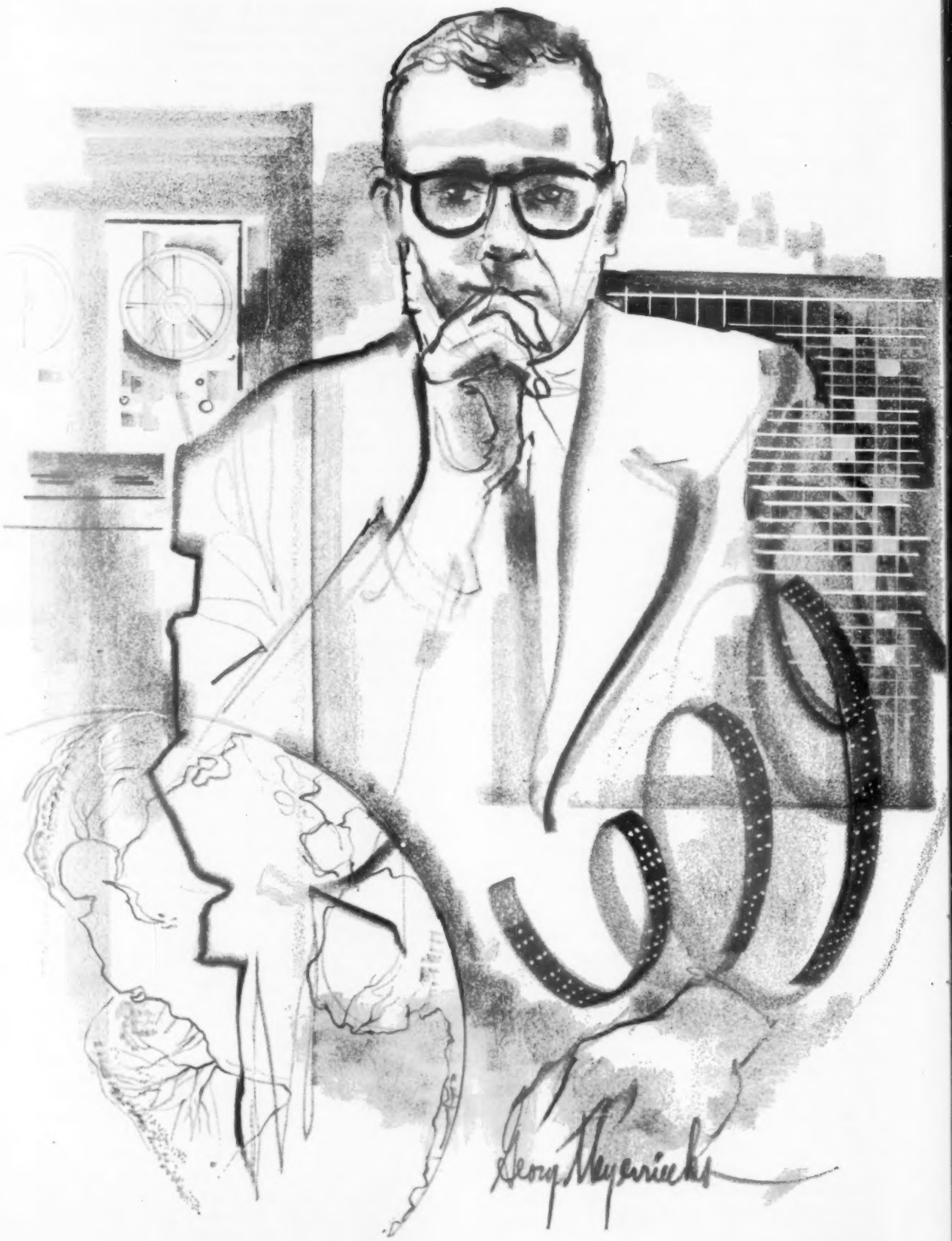
Purchasing Takes Initiative

Any purchasing value analysis program, for example, would be crippled from the start if it were not fully backed by management. Painful and surprising as it seems, many cost reduction campaigns by purchasing are still being rendered futile by the opposition or indifference of operating people who are not obliged by company policy to pay attention to them.

And attempts at materials management dissolve into thin air if purchasing never hears about top management plans. It's pointless to attempt to determine requirements on a scientific basis, set up elaborate schedules for deliveries, etc., using sketchy information you may have picked up in the company cafeteria. One of the most frustrated people in purchasing is the man who devised a simple but very ingenious formula for establishing economic order quantities. It has been widely used throughout industry for a number of years. Yet to date he has not been able to get firsthand the sales forecast made up by his management. Relatively speaking, his inventory control system is still a catch-as-catch-can affair.

So it goes. And so it will go unless purchasing takes the initiative and literally goes out to fight for a chance to take on new responsibilities and show its capabilities.

In the following pages a few of the leading authorities on purchasing explore some of the new roads down which the profession is headed. There are many others which are not discussed here, but these will suffice to illustrate some of the things that lie ahead for the ambitious and aggressive purchasing executive. They will not fight his battles for him. Only he can do that. But they will be helpful guideposts along the way to better purchasing and greater recognition.



What's Ahead for Purchasing?

The purchasing agent will be in the management spotlight in the '60s. He'll need a better understanding of himself, his business and the world around him if he wants to maintain or improve status in an increasingly complex industrial society.

By A. M. Kennedy, Jr.
Vice-President-Purchasing, Westinghouse Electric Corp.

WHAT'S in the future for purchasing? What kind of challenges and opportunities are ahead of us in the coming years? Will we be able to consolidate the hard-won gains of past years and move onward to new heights of professional stature? How should we prepare for the problems that lie ahead of us?

These questions arise in the minds of all of us in our more introspective moments. The answers we find to them are the keys to our success as individuals and to the continued improvement of our profession. Everyone of us will find his own answers, will make his own preparations, and the clarity of his vision, the wisdom of his planning, and the skills with which he implements his plans will determine the stature of tomorrow's purchasing agent, and that of the profession as a whole.

It is not necessary, nor is it possible, to look into the details of the future with an electron microscope, nor to look into the next century. The next decade, or even the first half of it, is as far as we need to go.

Here are the major forces which will affect us:

1. **Continued rapid expansion of industrial activity.** There is a solid underpinning to our expectations for prosperity in the '60s: the great growth of our population and the acceleration of family formation during this period. This promises greatly expanding markets for all of the goods and services that an ambitious population demands. These markets in turn will demand more than our present capacity can satisfy; greater capacity throughout our economy is essential.

   For example, we in our own industry are faced with the pleasant job of furnishing enough equipment to the electric utilities to double their capacity during this ten year period. And while we normally think of the demand for power as one of the most dynamic in the economy, the growing requirement for all of the other "stuff" of living will be enormous.

2. **Technology on the run!** Just a few years ago we thought that a four billion dollar annual rate for research and development expenditure was fantastic. Yet it has more than doubled in the last five years; R&D spending is over nine billion at present.

   Never before in the world's history has so broad an offensive been mounted on every front against the limitations on man's ability to completely control his environment. This is not all Sputnik generated. Nor is it all directed toward the problem of conquering space. Most of it is, in fact, profit motivated and borne of the desire to bring to the consumer the revolutionary new products which will provide him with a completely new environment at work and at home.

   Never before has the manufacturer been so concerned with the problems of his customers, and never before has he spent so much money developing products to lick these problems. New and improved products are pouring from the development laboratories and pilot plants at an ever increasing pace. A new form of technical competition is emerging.

3. **The fight against inflation.** Whether we reap the benefits of our expansion in the 1960's depends on our success in controlling inflation. This means, of course, our success in controlling costs.

   The first battle is now joined in the war to stop the wage-price spirals which are a major force behind inflation. The public seems well aware of the true consequences of inflation. The average worker seems to have bought the concept that wage increases far beyond increases in productivity do not provide him with a permanent improvement in real earnings. He has realized before his leaders are willing to accept it, that the day of the "wage-price" labor negotiations is over.

   We are facing the time of massive public resistance to price increases—not only for steel—but for all manufactured goods. This means that we can expect serious strikes in the future as union leaders battle the trend and refuse to abandon the 'milk the cow' approach. It means also that the control of material costs and indirect costs will

"The purchasing agent of the '60s must become his company's chief materials planner"

assume greater and greater importance with the manufacturer, as he has less and less success in increasing his prices.

In short we are facing years of dynamic expansion, high levels of volume with great technological achievements yielding a flood of new products. At the same time we can expect pronounced resistance to higher prices and a continuing cost—price squeeze.

What The P.A. Does

Let's consider how the purchasing agent should meet the challenges of the years ahead, and how he can turn the problems generated by these sweeping changes into real opportunities. **I believe the purchasing agent should mount a three-pronged attack on these fronts:**

1. **Material Costs.**
2. **Material Planning.**
3. **The Cost of Purchasing.**

In most manufacturing companies today the materials bill for the product exceeds the direct labor costs. For many years industry has been working on the problem of reducing the direct labor costs with methods engineering, time and motion study and heavy investment in automated capital equipment.

Now the emphasis is on materials utilization. Most industrialists and certainly all purchasing agents recognize that the way to success in material costs lies more in better materials utilization than it does in the area of price chiseling. This is a technical effort: a search for new and better materials to substitute for the old, for ways to better use available materials for the improvement of the product or a reduction in its cost.

For purchasing the opportunity is clear. It lies in the direction of more technical involvement. Materials utilization problems are best attacked as a joint effort between purchasing, engineering and manufacturing personnel. The approach is a thorough, systematic and analytical process and its many techniques have been combined under the one general term of value analysis.

For purchasing to play its full part and to bring its full capabilities to bear on the problem requires:

1. That is demonstrates its ability to talk the engineers' language and to understand his design objectives.

2. That it demonstrates its broad but penetrating knowledge of materials by actual contributions to cost reduction.

3. That it clearly proves its ability to represent the technical departments of the company in searching out the new technical developments available from its suppliers and in focusing their specialized knowledge on the company's cost and material problems.

New Demands on P.A.

The great pace of technological development will require a much greater awareness of what's going on technically than was ever necessary before. The host of new products and processes will require thorough but decisive screening by technical buyers in order to preserve the engineers' time for creative design.

Expansion of plant facility and equipment will pose new demands on the buyer's understanding of the modern automated type of equipment available today. The job of buying, tip controlled and highly automated machine tools is one which requires the value buying approach to a far greater degree than the old time job of buying the engine lathe. You need technical savvy here; and manufacturing experience is almost a must for buyers.

Moral: you will need far more technical competence in your buying staff in the future. Either you will provide your organization with the technical know-how to successfully represent your technical departments, or they will take over the job themselves and you will be relegated to a minor position as the clerical confirmer of their purchasing decisions. The choice is obvious.

The Great Battle

The fight against inflation in our economy is only just begun. Regardless of the outcome of the present steel strike, the courage of the industry in making the first all-out stand against the inflationary wage increase is unquestioned. The battle may not be won this time. It is difficult to reverse or stop a forty year trend in one negotiation. But it will be won in the next few years, because public opinion, and to some extent the opinions of workers themselves, will no longer tolerate the continuous wage increase, price increase, inflation.

In the next few years you will find most industrial companies and most major industries joining battle over this basic issue. Strikes are going to be widespread and they are going to be serious and prolonged in many cases. Here again the opportunity for purchasing is very clear. Better materials planning will be strategic in the survival of any manufacturing company. Continuous operation will depend more and more on the foresight and the judgment of purchasing people in building protective inventories against impending strikes. Contract termination dates of supplying companies will become as important to the purchasing agent and his company as delivery dates. The value of the purchasing man's opinion in the management council will be high and he will participate to a far greater degree in over-all company planning affairs.

If we are entering a new phase of labor rela-

(*Please turn to page* 102)

The P.A.'s Critical Role in Profitmaking

Forecasting for Management

By Dean Ammer,
Executive Editor

UNCERTAINTY is the major reason managers get ulcers. It's also the major reason management is a far from exact science. Top management is most uncertain about the future in two key areas: future demand for the company's products and future costs. If costs and sales could be accurately projected many years into the future, management would be a much easier job than it is at the present time.

The materials manager can do a lot to take the uncertainty from management. With his intimate knowledge of suppliers and markets, he can broaden management's insight into future economic trends.

Knowledge of general economic trends helps, of course, to eliminate some of the uncertainty from future sales and costs. In addition, the conscientious materials manager can help management project costs in his day-to-day activities. Every time he sends the cost department an

estimate of the cost of a part or material for a new product he is doing this. He also does it in his reports to management when he gives his opinions of future developments and price trends in key industries.

The materials manager can do a lot more, however. Just think how much uncertainty would be eliminated for management if it could accurately predict what its biggest cost—materials—would be for months or even years in the future? Since materials cost is more than 50% of the sales dollar in most cases, it's no great exaggeration to say that **if management knows what its materials costs will be, it can accurately predict total costs.** The other big cost in most companies—wages and salaries—is usually well controlled. Wage adjustments are made only periodically; well-managed companies usually maintain excellent control over wages and salaries.

Future Materials Costs

Total materials costs are determined by two variables: usage and price. Usage is determined by the volume of production and the scrap rate. It can usually be controlled closely. Few companies have a hard time accurately predicting usage several months in the future. Most companies' usage estimates are limited only by the accuracy of their sales estimates. Needless to say, the materials manager is not responsible for predicting sales of products. His job is limited to translating sales forecasts into estimates of future materials usage.

In price forecasting, the materials manager's role is bigger. No one is better qualified than he to predict future prices of materials. Forecasting is one of his most important jobs. Most materials managers provide their managements with at least occasional forecasts which reflect their conversations with salesmen and also the way they size up business generally. Few of them do as much forecasting as they could. In most cases, they're inclined to accept the notion that forecasting is for the professional economist when, in fact, there are few materials managers who do not have access to raw data that would make an economist green with envy.

The P. A. doesn't have to know anything about economics to predict prices a few months ahead. The reason is simple: the prices the buyer is negotiating today don't become costs of production until some date weeks in the future. Before the prices are effective, the vendor must have lead time to ship against the new order and inventories of previously purchased items must be consumed. Since no buyer worth his salt is really surprised when a price change actually comes, most changes can be accurately predicted weeks or even months before they appear on a purchase order. This type of forecasting requires no economic forecasting skill whatever; buying skill is the sole prerequisite.

The Key Parts Concept

The only barrier to extremely accurate forecasts is that there is just too much data available. If a buyer stopped to make calculations of the effect of each price change on product cost, he would have no time left to buy, he would be spending all of his time making out price change reports. Fortunately, it isn't necessary to keep records of price changes on every item to make accurate forecasts.

In typical purchasing department, 80-90% of the money is spent on but 10-15% of the items. If careful records are kept of price changes on these big-money items, over-all changes can be accurately estimated with a minimum of paperwork. This is the key-parts approach.

Obviously, estimates of cost changes will be at least 90% accurate if they include the items that comprise 90% of the dollar volume. In practice, they will be closer to 99.9% accurate. Prices of similar items tend to change almost simultaneously and by about the same magnitude. If a high usage, high volume screw machine part goes up 3% because of higher cost steel, so will screw machine parts whose usage is not great enough to warrant their being included in the small group of items used for forecasting and control.

The Mechanics

Before the key-parts approach to forecasting can be applied, a fairly elaborate study must be made. The estimated dollar volume of each item must be calculated so that the sample of the high dollar value items can be selected. Then work sheets must be compiled for each key item; present and estimated prices are then entered on these sheets. The change in cost is calculated for each month. It is divided by the size of the sample (e. g. if there is an 88% sample dollar-wise, the price change is divided by .88) to get an estimated total change.

Next, the number of weeks of average inventory must be estimated along with the average effective date of the price change—i. e. when goods at higher prices actually start reaching the receiving dock. This means there is a lag before the price change is actually reflected in product cost. Typically, estimates of March prices made in January are reflected in shipments made in April and in production costs in June. The result: purchasing has estimated material costs

Table I

1960
Budgeted Materials Cost Changes
Product XYZ

Month	Beginning Cost	Negotiation	Product Change	Material Cost	Supplier Change	Other	Total Change
January	$100.00	(.42)	(.22)	.14	(.05)		(.55)
February	99.45	(.28)	.60	.75	(.35)		.72
March	100.17	(.40)			(.10)		(.50)
April	99.67	(.40)			(.10)		(.50)
May	99.17	(.40)			(.10)		(.50)
June	98.67	(.40)			(.10)		(.50)
July	98.17	(.40)		1.05	(.10)		.55
August	98.72				(.10)		(.10)
September	98.62				(.10)	3.10*	3.00
October	101.62				(.10)		(.10)
November	101.52				(.10)		(.10)
December	101.42				(.10)		(.10)
Total at End of Year	$101.32	($2.70)	$.38	$1.94	($1.40)	$3.10	$1.32

*Addition of new parts to sample formerly made in the shop, and purchased from outside suppliers effective September 1, 1960.

six months ahead with pinpoint accuracy.

This approach to forecasting is best understood by using an example. Let us suppose that purchasing has discovered that it can cover 90% of its dollar volume with a sample of 100 of its most costly (in terms of usage multiplied by price, not in terms of unit price alone) items.

Let us suppose that in December, 1959, buyers report all estimated price changes for the first three months of 1960. Their replies indicate the following trend in the total cost of the key parts:

December — $100.00
January — $100.10
February — $101.90
March — $102.05

Thus, by March buyers predict that they will be spending a total of $2.05 more for the items in the sample. Dividing by .90 to make the change in key-parts cost reflect estimated change in total cost, gives a revised total of $2.27. The index may be designed so that this $2.27 reflects the change in cost of a product or of some other convenient unit of production (tons of material produced, etc.). Multiplying $2.27 by the anticipated production volume gives the total change in material cost that is expected.

Price changes and volume of production are not the only variables that affect materials cost. Changes in the product's design or usage also affect total cost. Materials managers like to distinguish between product cost changes and economic changes since one is basically the responsibility of engineering while the other is primarily in purchasing's bailiwick.

So records kept of price changes on key items should reflect the reason for the change. If the price variance is due to design change, this should be indicated. If it is due to economic causes, the materials manager may wish to show the specific cause—labor cost increase, negotiation, new supply source, etc.

Breaking down reason for price changes in this fashion can be extremely useful for control and measurement of performance. Using the previous example note that parts prices advanced from $100.00 in December to $100.10 in January. Even though this $.10 change is almost negligible, it may have consisted of elements that were extremely important. Conceivably, for example, purchasing may have negotiated $2.50 in cost reductions while product improvements cost $2.60. In this case, cost reductions permitted a better product without raising costs significantly.

Budgeting Purchase Prices

With the key-parts concept, purchasing can make tremendous strides in cost control. Most purchasing departments today operate on a budget. But typically a budget controls only salaries and miscellaneous operating expenses. These costs are almost trivial compared to the

52% slice of the sales dollar that the average company spends on purchased parts, materials and services.

Using the key-parts approach, the materials manager can make accurate monthly or quarterly forecasts of costs in reports to management. He can also budget negotiated cost reductions by product, indicate the effect of product changes and volume changes on cost, and provide his controller with data that is invaluable for projecting profit and loss statements months into the future.

In his report to management, the materials manager might indicate how the key-parts cost would change each month for various reasons. Usually he would make such a report for each of the company's major products and, in addition, would make some sort of consolidated report that would be representative of all products. Table I (p.59) shows a typical report for one product.

Report to Management

The example in Table I covers a mythical XYZ Product; the projected cost changes on it were submitted by the materials manager to top management in December, 1959. The projections for January and February are extremely precise; they represent the results of negotiations that have already been concluded or are in process.

So the materials manager can be all but positive that costs during January will be $100.00 for the key parts in the sample and $99.45 in February. Management, in turn, then knows that the material content of manufacturing cost will be $100.000 and $99.45 in March and April after adjusting for supplier lead time and average inventories. So management can make an extremely accurate projection of profits through the first quarter of 1960. (How many managements can do this without the key parts approach?) In addition, it has an excellent guide to material costs for the balance of the year.

Cost Reduction Objectives

The materials manager's estimates of key-parts cost for the period from April through December reflects both his realistic appraisal of economic conditions through the year and his cost reduction objectives.

Note that the materials manager predicts a $1.05 increase in material cost. In this case, he has estimated that labor settlements in one of his major raw materials will push prices of both the material itself and parts made from the material. He has calculated approximately what he thinks the price increase per pound will be for the material and then has multiplied this by the estimated usage of the material in his key parts. Management won't be surprised when costs start rising later in the year.

Note also that from March through July, the materials manager has budgeted monthly reductions in cost through negotiation of 40¢ per unit. Blanket orders for certain key parts come up for renegotiation during this period; the materials manager has incorporated his cost reduction bogeys into his materials cost forecast. He has also budgeted cost reductions of 10¢ per month on key parts because of a change in suppliers. The manager feels his buyers get paid to investigate new sources and expects them to get results.

The big cost change of $3.10 that is projected for September may seem confusing. It represents what must be done to the key parts sample if there is a make-or-buy decision on a major item. In this case, the materials manager will buy a part previously made in the shop. Since the part is a very costly one, it must be included in the key parts sample so it is added on to the sample when the outside supplier starts deliveries in September.

This type of change makes it especially important to segregate reasons for cost change on the key parts. Note that despite substantial cost reductions, the materials manager estimates he will be paying $1.32 more for key parts by the end of 1960. The only reason the cost won't decline, of course, is because $3.10 worth of new items have been added during the year. This is clear from the breakdown.

Limit Cost Pass-Throughs

In projecting his costs, the materials manager naturally sets targets for his buyers in negotiation and, in effect, limits how much they can permit suppliers to pass on higher labor and material costs. A good materials manager doesn't do this arbitrarily. He doesn't say it would be nice to cut price 3% and then try to get his buyers to force suppliers to meet his target. Such practices just won't work consistently. Instead, the materials manager estimates what competitive conditions will be during the year, and the state of supplier technology.

Must Know Suppliers

In making these estimates, he naturally draws heavily upon the knowledge he and his buyers have of supplier costs manufacturing techniques, competition. In addition, he applies general economic forecasts to his estimates, he knows that supplier costs, prices, and competitive spirit are greatly influenced by the business cycle.

Modern materials managers are familiar with economic analysis. They can use it not only to estimate the price trends of the items they buy but also to guide management in planning production for the products it sells. Unlike the armchair economist, the materials manager gets much of his forecasting material from the economic firing line on which he works every day. For this reason, materials managers can often make better forecasts than economists if they follow a few simple principles. These principles will be discussed in detail in the second article in this series which will appear in forthcoming issue of PURCHASING Magazine.

Purchasing's Part in Marketing

By Louis J. De Rose
Marketing Consultant

OF NECESSITY, business functions must be market-oriented. This means that companies must direct their purchasing, manufacturing, sales, and engineering efforts toward the customer. In private enterprise economy there is no alternative, for the profit system is grounded on this fundamental.

Market orientation is particularly important to purchasing function for two reasons:

1- Purchasing dollars represent the largest single element of cost and expense to industry today. They are also an investment with the greatest opportunity for improving profits. Since profits are earned both by increasing sales, and decreasing costs, a marketing-conscious purchasing department can influence earnings both ways.

2- Purchasing satisfies its needs in specific markets. In so doing, it is exposed to marketing policies, strategies, and tactics of its suppliers. **Purchasing's ability to understand and deal effectively with suppliers' sales objectives and techniques depends on its knowledge and appreciation of the marketing process.**

By its very scope, marketing affects, and is affected by, all functions within a business. It is more closely tied in with purchasing than others. For example:

- Marketing establishes the basic elements of

"Purchasing's ability to deal with suppliers . . . depends on its knowledge of the marketing process"

product mix, design, and specification. These are the fixed requirements to which purchasing must buy.

- Marketing establishes sales forecasts or customer order quantities and due dates. These are the factors which determine purchase schedules and order quantities.
- Marketing establishes customer service and replacement requirements. These are satisfied through purchasing and inventory support.
- Marketing establishes prices and price levels. These in turn, both reflect and predetermine, material costs incurred through purchasing.
- Marketing establishes long-term relations with desirable customers. Often these customers are also suppliers to purchasing, so that buying and selling objectives are intimately related.

Since marketing and purchasing vitally affect the earnings performance of a company, it follows that the profit-minded purchasing man should know more about marketing.

Marketing is that function which plans and integrates the flow and movement of products (and services) from their initial conception to their ultimate distribution and use. It embraces activities such as product planning, market, research, sales forecasting, pricing, sales and service, advertising and public relations. Its purpose is:

to establish what the customer or market will buy;
to define the market, by customer, location, size, industry, etc.;
to measure the market in terms of quantity and time;
to analyze the customer or market in terms of attitude, behaviour, or buying habit;
to influence the customer or market favorably, so as to precondition the sale;
to sell, and distribute profitable products at minimum cost;
to service and support products once they are sold, and keep, customers, markets, and the general public satisfied.

Nature of Markets:

There are two broad types of market:

1—the consumer market for goods and services;
2—the industrial market.

Consumer and industrial markets differ in objectives, motives, and behaviour patterns, of buyers of goods and services. For example, consumer goods are bought by individual purchasers, for immediate consumption or gratification. They are bought in small quantities, largely on the basis of habit, impulse, or psychic attraction. They are bought by many buyers, over wide geographical areas, through numerous outlets or channels of distribution. They are bought by non-professionals, to whom purchasing is an incidental activity.

Industrial goods and services are another matter. These are bought by business, government, or institutional organizations, and their purchase stems from a derived demand for the product or service of the purchaser. Unlike consumer goods, these are not bought on impulse. They are bought to satisfy a functional requirement of the user. Industrial goods are bought in large quantities by relatively few and distinct purchasers. They are bought by experienced and professional negotiators, who operate through formal systems, methods, and procedures of buying. Each transaction tends to be a significant one, both to the buyer and the seller. The result is that individual customers influence—and at times control—product design, delivery, and prices factors.

To the purchasing man, this distinction by market is an important one. It determines the nature and caliber of effort he must apply to make his contribution meaningful to his company. **Specifically, the purchasing man must participate actively in the determination of design, specification, and material requirements. He must negotiate elements of price, terms, and conditions. Always he must be conscious of the effects of his actions on his company's ability to sell successfully.** This is particularly true if his company sells to an industrial market, where the customer may express and enforce his wants more readily.

Product Planning:

Product planning is the analysis and selection of products and services a company will offer. It includes the broad determination of scope and variety of the "product mix" as well as more specific choices of model, grade, or style. Product planning considers questions of design, styling, performance, delivery, service and guarantees, and relates these to the price levels at which they can be sold.

But forces beyond the immediate control of management are constantly driving companies into unprofitable marketing areas. Organizations "drift" into market situations that often inhibit healthy growth, and jeopardize price or market stability. These are some of the causes of such "drift":

- Consumers have become more demanding of new products, materials, and services. Yet they have become more fickle, and less loyal to trade names or suppliers. The temptation of catering to the customer's whims, may be difficult to ignore, but dangerous to pursue.
- Because of this changing consumer demand, purchasers—particularly industrial purchasers—seek more special products and

product variations. The result is high cost modification, adaptation, or initial design, often without the volume or price to support them.

- Competition is expanding its product lines, and exploits this fact to the disadvantage of limited-line producers. To "keep up with the Joneses," sellers are often forced into unprofitable markets, or take on customers they are ill-equipped to serve.
- Competitive markets in today's economy are often volatile ones. Products and projects deemed profitable in one phase of a business cycle, often prove failures in another.
- The make-up and distribution of markets is continuously changing.

Through effective product planning, purchasing and engineering effort is channelled into those markets offering maximum return on capital investment. New product ideas, and proposed changes in product mix, are evaluated in terms of:

plant facilities, technical manpower, and financial resources necessary to introduce and sustain product or service innovation;

sources of supply, internal and external, for necessary engineering, materials, components and supplies;

know-how—technical and production—necessary to apply and manufacture the results of innovation;

market and sales capability necessary to distribute it;

cost of production, break-even points, and prices correlated with market demand.

Market Research:

Intimately related to product planning, and essential to all marketing management, is market research. It entails:

1—measurement and analysis of the size and distribution of markets;

2—accumulation and interpretation of sales results, both past and present;

3—forecasting of sales;

4—analysis of customer in terms of practices, motives, and attitudes;

5—analysis of competition in terms of practices and prices.

Market research enables management to know where it is going and how fast it is getting there.

The tools and techniques of market research are primarily statistical. They involve collection and study of numerical data which measures selling trends, product, customer and territory distribution, size and shares of the market.

- Size and distribution of markets may be determined from an analysis of census and survey reports developed by government, educational, and industrial institutions.
- Accumulation and interpretation of sales results indicate important aspects of past and present sales efforts. For example, analysis of sales data provides information on total volume of sales by territory, by sales personnel, by product line. It indicates gross margins, and expenditures incurred to maintain sales, promotion, or advertising programs. By arranging data in categories of time, product, or other element, significant trends are indicated, which are important for future planning.
- A valuable product of accurate sales data is the sales forecast. It predicts future sales by product, territory, and market, on the basis of known and assumed information. There are essentially two techniques of sales forecasting:

  1—the statistical approach, determined by the share of the market enjoyed on the basis of past performance, qualified by the general level of business activity for the economy, the industry, and the specific market.

  2—the personal judgment approach, determined by individual estimates by salesman, dealers, and distributors, of particular customers and accounts.
- An essential aspect of market research—as well as of product planning—is the analysis of the customer in terms of buying practices, motives, and attitudes.
- Related to this is the analysis of competition. Such analysis should develop data on product lines, new product developments, research programs, manufacturing processes and facilities, cost and financial data, prices and pricing policies, marketing and distribution structures.

Pricing:

One of the most difficult areas of marketing responsibility is pricing.

There are two approaches to pricing:

1—pricing *to* the market; and

2—pricing *from* cost.

The term "market" refers to the existence of buying and selling transactions. The "market" may be broad or restricted; geographically dispersed or local; continuous or inactive. But, in any event, a "market" implies transactions: so that pricing "to the market" indicates a pricing approach geared to a level at, above, or below past or current transactions.

But there are marketing situations where the term "market" as defined above, is inappropriate. For example, customers require unique materials, components, or supplies which are not commercially available, but rather, must be designed and produced to specification. Transactions for these items do not occur, until the customer and a supplier agree on quality, delivery and price considerations. Since there is no market level to price to, the seller tends to price from an estimate of costs, with a profit margin. Depending upon the intensity of his competition, factory loads, historical overheads and rates of return, anticipated future business, etc., he estimates his costs closely or loosely, and is satisfied with a small profit, or what the traffic will bear.

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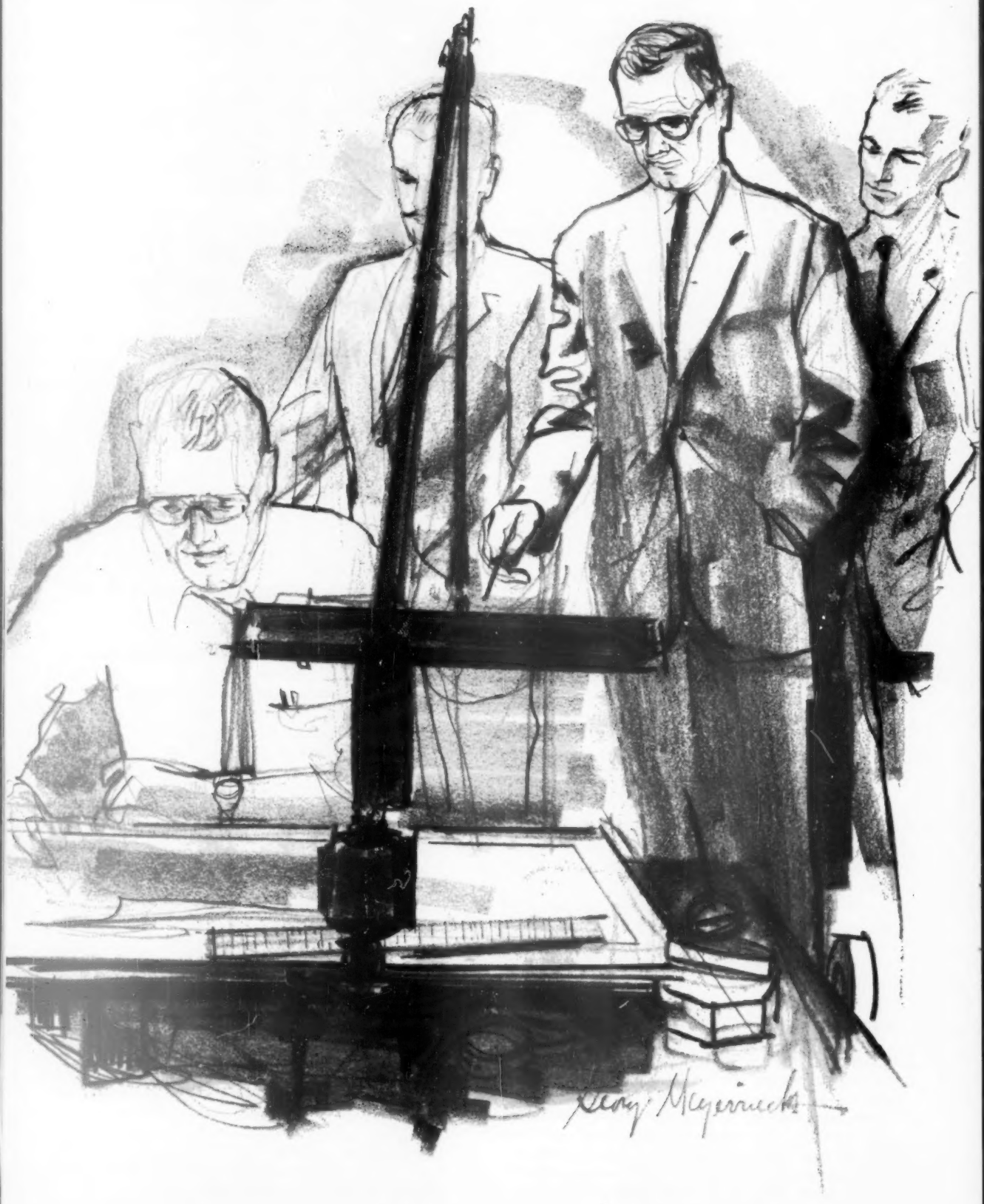


Purchasing Must Analyze Values

The best buy begins long before an order is issued. Purchasing is performing its own function best when it knows the function —or lack of it—of every feature of every requisitioned part, then seeks specialty vendor skill to provide the value needed at lowest cost.

By L. D. Miles
Manager - Value Service, General Electric Company.

SOME JOBS OFFER a range of satisfactory or near satisfactory performance; others require perfection as "par for the course."

The salesman receives discredit if he achieves 75 per cent of his expected sales budget but extra credit if he achieves 125 per cent. The purchasing agent also receives discredit actually if he achieves anything less than 100 per cent of what is expected of him but, in contrast to the salesman, he has no opportunity at 125 per cent performance—no opportunity to get "extra credit."

Securing the specified material of acceptable quality from reliable suppliers with proper delivery and right prices is considered "normal." That is what is expected of him. It is his "par." His is the type of job where perfection is required as normal. A late delivery, a quality slip, a vendor miscount, brings discredit to his job. He draws attention from his management and his peers only for his deviations below perfection. To make it worse, his deviations become instantly known by large numbers of people who are affected unfavorably when the situation incurs:

Products to scrap with lost profits;

Production people to send home for lack of work;

Customers to disappoint with delayed shipments.

The ball player can either hit a single, fan, or hit a home run. In contrast, the purchasing agent, in the eyes of his business associates, can only hit a single or fan. This means that he needs a chance at some plusses—some opportunities to make significant and unexpected contributions to the business.

He has that chance—if he will make if for himself. It lies in the various extra contributions he can make by developing and using some of the techniques of value analysis.

Understand the Function

Every good transaction is made to obtain a function. What is the function that is really wanted?

Requisitions continuously came to purchasing for asbestos rolls. Starting to build plusses into his job by use of value analysis techniques, the buyer searched out the function. It was to catch paint drippings under a conveyor line of painted products. The risk of disastrous fire was too great to allow the use of just paper for this function. He recognized the real need and desire of the requisitioner for "something that will not burn and that can be conveniently handled, to catch paint drippings." His approach to makers of special paper brought forth a "non-burning" paper. Tests were made. The material was as effective as asbestos for this application and cost a lot less. Specifications were changed.

The buyer added a plus. He contributed more than was expected of him and added profits of the business.

Each person in a working group types the others. Certain things are expected of them, others are not. It is important that the purchasing agent and buyers teach management, engineering, and manufacturing to expect purchasing to want to understand the functions of items being purchased. This should be done early when starting a new assignment. It's too late once you have been typed.

Analyze Specifications

Drawings, descriptions and specifications never accurately describe precisely what is really needed.

1—Some details of the specification that are vital may be based upon special knowledge and special tests you don't know about.

2—Others represent the best knowledge and judgment at the time according to the information (or the lack of information) at hand.

3—Still others are arbitrary—known by the designer and specification writers to be of little consequence but filled in for the purpose of completeness. They represent the practices and habits of people in the particular area.

Startlingly often, costs are doubled or trebled by specifications of types 2 and 3 when the purchasing agent could otherwise have used the knowledge and special techniques of some of his best vendors to obtain the same function.

A few weeks ago, a military procurement official told of his organizations efforts to eliminate

"The purchasing agent is a key figure in the search for value... It's in the nature of his work"

unnecessary, non-contributing costs from military purchases. He said that the cost of seats in fighter planes seemed to them extremely high. An investigation revealed that the seats were made of leather. A study of the specifications showed one requirement that the leather must be capable of being immersed in horse manure for 36 hours without ill effects. A surprising requirement to still be found in the purchase specifications and tests. It no doubt served a very useful purpose for harness leather in the old cavalry days when the specification was written. But it had no bearing on the present application. Needless to say, this item of added cost to you and me—the taxpayers—was promptly eliminated.

Frequently, seemingly relatively unimportant details of specification cause significant cost increases but have little or no functional value.

A military procurement group was investigating some of the high costs of various supplies and gear. It was found that a specification for army blankets provided that the blanket must be laid out on a template and must lay totally flat, even around all its edges. This requirement was met by extra work, extra inspection, and extra rejections for which suppliers were forced to add $3 per blanket. There wasn't a penny's worth of value in that $3.

If purchasing will make it a rule to check reliable vendor ability before specifications are frozen, this kind of waste can be cut out of industrial and government buying by the millions.

One serious lack in the whole procurement cycle is cost information from outside the plant. Since people in engineering, drafting, and manufacturing often do not suspect it can be secured, they make no request to purchasing to develop it.

A specification called for buying steel bar ⅜" by 3". Purchasing analysis of function showed that the material was made into a small irregular shaped weld segment about three inches long. Quantities of only a few thousand per year were needed. The feeling in manufacturing was: "considering the small quantity, tooling to make this part on a punch press would be too high." The buyer brought into the area the new information that tooling from "small lot" stamping suppliers would cost $75. That would bring the present part cost of $1.41 down to 39 cents.

This kind of information—which can be provided only by purchasing—was not on hand when the specifications were being written. When purchasing brought it in the specifications were changed from "buy bar" to "buy part." An unexpected plus for purchasing resulted.

It's only fair to ask, "Would the specification writer for the blanket have been so extreme in his flatness requirements had he been informed that it added a million dollars to the cost of each one-third million blankets?"

Reasons for Unnecessary Costs

One or more of six principal reasons causes unnecessary costs to exist in all products. Regardless of the reason for the extra cost or who in engineering, manufacturing, purchasing, or management, is responsible, purchasing's value analysis techniques of (1) identifying the intended functions, then (2) providing alternates which can reliably and effectively perform them, go right to the heart of the cost problem.

This is what causes unnecessary costs:

1—Lack of information. Decisions in engineering, in manufacturing, in drafting, in management, and elsewhere must be made with the information at hand. All of the pertinent knowledge is not at hand.

This is why purchasing should know and understand the plans of engineering, of manufacturing, and of the business before exact specifications are written. From the wealth of capabilities among vendors, it can bring in specific help to get the same function at very much lower cost.

2—Lack of ideas. Often costly and complicated designs are used to accomplish important functions. Later, it is found that very simple ideas involving no new materials or processes will reliably accomplish the functions at a fraction of the cost.

Is there ever a function or a group of functions which are totally beyond suppliers' competence? Hardly. At purchasing's finger tips (except when very new developments are involved) are supplier concentrations of knowledge and skills for accomplishing particular functions.

3—Honest wrong beliefs. In a certain percentage of his decisions, every man is wrong. One of the most important reasons for this is that man accumulates some wrong beliefs as he has experiences, or as he misses experiences, throughout his life. These govern his decisions. The manager, the engineer, the manufacturing man, and the purchasing man each carries his share and does not recognize them as wrong. He believes he knows.

The resulting unnecessary cost can be brought into focus by illuminating the particular area with new and different information. In purchasing, above all other functions, there exists broad and effective sources of wide varieties of sound information affecting value. This is indeed a high potential contribution area for purchasing.

4—Urgent circumstances. Seldom is there as much time for design, for test, for re-design and re-test, for experimentation with different equipment, for searching out and developing alternate methods, etc. as people would like. As a rule,

(*Please turn to page* 101)

The Challenge Purchasing Faces Now

By Stuart F. Heinritz, Senior Editor

WITH THE coming of each new year, it is fashionable to appraise the nature and direction of the changes that have taken place over the period. And it is a wholesome custom. It sets a point of reference, and management uses this assessment as the basis for adjusting its goals and redefining responsibilities in accord with current conditions and trends.

The year-end review, of course, does not stand alone as an isolated statistic. Rather, it is a milestone along a continuous road. It is but the formalization of a process that goes on from month to month and from week to week throughout the year. It is not always possible to pinpoint the exact date of a change in trends, and one does not wait for a change in the calendar to implement indicated changes in policy and action. So, while the annual surveys provide a useful perspective, the findings rarely come as any startling surprise. Rather, as the cumulative effects of

trends become more apparent, and as the complexity and tempo of business affairs continue to mount, the formal statement of analysis and decision is likely to start with the phrase, "Now, more than ever before . . ."

What Purchasing Must Do

We can logically and soundly borrow that introductory phrase in defining the responsibilities of purchasing for today and for the months ahead. Now, more than ever before, competition and rising costs make it imperative for the purchasing department to keep the company in a favorable competitive and profit position. Now, more than ever before, it must make spending a dynamic and positive function, contributing toward ultimate profits. Now, more than ever before, it must strive for continuity of supply and high levels of production. Now, more than ever before, it must keep pace with rapid technological progress in materials and methods. Now, more than ever before, it must secure maximum value in return for every dollar of expenditure and achieve maximum efficiency in its own departmental operations.

There is nothing essentially new in these observations. They merely summarize what every management has a right to expect from its purchasing department, what every purchasing department aims to do, and what most of them have accomplished to a notable degree. But these principles are worth repeating, for as the tensions of business and the obstacles to this accomplishment become more difficult and demanding, these responsibilities of purchasing represent a greater challenge. Now, more than ever before.

If purchasing were merely a job, and if we could stop with considering its specific responsibilities to the individual company, there would be little more to say. But purchasing is more significant than this. And we need not get into the abstract areas of professional, ethical, or general economic responsibilities to see that the function of purchasing goes beyond doing a competent job of meeting the material requirements of company operations.

Purchasing's Dual Role

Of course the purchasing department's first responsibility is to management, in carrying out its procurement assignments. Let us grant, without argument, that this is where the purchasing responsibility starts, but let us not thoughtlessly assume that the responsibility automatically ends there. For purchasing also has a responsibility as a part of management and—within the scope of its particular concern with the flow of materials and goods—it shares in management's over-all responsibility to the industrial and national community.

This is nowise in conflict with the basic functional responsibility of procurement, nor with complete loyalty to the company's aims and interests. Purchasing is inseparably a part of company and management policy, whether we regard it as an implementation of that policy or as a factor in policy-making. We cannot escape this implication of responsibility, or avoid accepting it, without tacitly denying that industry is a responsible member of the national community. Few, if any, would subscribe to any such denial. Quite the contrary. There is virtually unanimous agreement that industry and trade are the very life blood of the nation, the source of our national strength and well-being. What does this mean in terms of purchasing responsibility?

To understand and define this responsibility we must see the economic picture as a whole. We must look at both sides of the coin. As the initial premise, and in the final analysis, industry exists to serve the consumer—the public that makes up the market for goods and services produced and, in a larger sense, makes up the nation. Without customers, there is no need nor place for industry, but with human needs and desires to be satisfied industrial opportunity is virtually unlimited. The relationship is a mutual one. Industry flourishes in an economically sound and prosperous nation. A strong and prosperous nation depends upon a productive and profitable industry providing employment, purchasing power and the goods to support high standards of living.

Have Common Goal

In the industrial organization, purchasing uniquely represents the public interest, the consumer. For in the normal and necessary course of business the purchasing department is the customer, representing the company in its role as a consumer of goods and materials, just as other departments represent the company in its various roles as producer, developer, marketer, or employer. Every one of these aspects of the operation is essential to a complete and healthy whole. In this they have a common interest and a common goal.

Now, more than ever before, one of the unfortunate trends in current thinking, or thoughtlessness, is to overlook or ignore this basic common interest and mutual relationship. Whenever the economic components are separated for the purpose of special interest, whenever the emphasis is focused on getting a bigger slice of the existing pie instead of producing a bigger pie, and whenever the problem of rising costs is

solved by the easy expedient of passing the extra cost on to the consumer, the economy is weakened. Profits and wage scales may be maintained by such policies, but usually at the sacrifice of productivity and purchasing power.

The expanding production resources attributable to research and automation and the expanding demand arising from a growing population are glibly cited in support of such decisions, but they are prodigally discounted in advance. It is a century and a half since Thomas Malthus expounded his doleful thesis that the world's capacity to consume was outrunning its capacity to produce, a theory that was convincingly shattered by the industrial revolution. Today, with a vastly increased consuming public and higher standards of demand, we have the resources and skills to keep the world in economic balance, with a liberal margin for improving the consumer's lot. Yet within the past few months reputable economists have been voicing views that are closely reminiscent of Malthus' discredited theory of population. Mankind still has much to learn from the fable of the goose that laid the golden eggs.

These are broad generalizations, but the problem becomes more specific and closer to home in our purchasing theme. For when the philosophies of special interest and the forgotten consumer are permitted to prevail, the plight of the consumer public is inevitably reflected in that of the industrial consumer, to the detriment of industry as well. This plight is personified in the position of the purchasing agent. The simple purchasing responsibilities already enumerated become more difficult to accomplish. The P.A. is beset by the same economic pressures that are imposed on the general public, plus the added pressure from his own management to hold the line on material costs.

It's a neat trick that the industrial buyer is asked to perform, but the purchasing agent is used to getting tough assignments. And after all, buying is his business; in that sense, at least, he's a "pro". One of the characteristics of the "pro" in any field is that he learns to accept the playing conditions and the ground rules, and to operate within the framework they present. He may not like them, but he is not panicked by them, and he turns in the best performance of which he is capable under the circumstances.

Redefine Purchasing Responsibility

The purchasing agent has neither the authority nor the power to change the economic rules or stem the economic tide. But he can take a wholesome step in that direction by seeking the active support of the entire industrial community in a redefinition of purchasing responsibility in terms that take into account the general consumer welfare as well as the immediate company interest, for in the larger view the two are inseparable. It is his first responsibility in today's world to set such a program in motion.

The specifics of the new definition are not in conflict with those already stated and accepted, but they are broader and deeper. The responsibilities would include:

- Giving as well as getting maximum value, by promoting marketing policies that are in harmony with purchasing policies and objectives.
- Developing mutually profitable buyer-seller relationships, to stress the common interest and build a stronger total industrial economy.
- Patronizing and fostering efficient supply sources, seeking the values that stem from efficient production rather than exploiting marginal sources that have no real place in the economic scheme.
- Resisting all forms of inflationary practice and policy, to conserve the purchasing power of the industrial and consumer dollar.
- Maintaining strict standards of essential quality, to combat the downgrading of materials and products that constitutes a subtle and pernicious form of inflation and reduces real living standards.
- Subjecting all requirements to the test of value analysis, to eliminate waste of materials and avoid costs that do not contribute to product utility.
- Keeping legitimate competion alive on the broadest possible basis, as the logical basis for creating and maintaining a favorable competitive position for the buyer's own company.
- Promoting a healthy and sincere respect for the principles and objectives of sound purchasing at every stage of materials flow, from original producer to ultimate user.

Must Abandon Passive Role

Again, there is nothing essentially new in such a program, nothing but what the more progressive purchasing people have recognized and have already tried to put into effect with varying degrees of success. But now, more than ever before, it is essential that *all* purchasing be placed on such a plane. The outstanding characteristic of the program is its emphasis on the positive, constructive approach, with minimum reliance on the traditional techniques of pencil sharpening and intensive bargaining. And that is the first and inclusive responsibility of purchasing in today's world—to abandon the passive, defensive role that is too often expected and accepted, and to make a truly constructive contribution to industrial and economic policy.

1960

Economic Forecast: What's Ahead

- **More Prosperity**
- **Higher Prices**
- **Increased Capital Investment**

By Martin Gainsbrugh, Chief Economist, National Industrial Conference Board

THE UPSURGE in economic activity has been marked and vigorous following the resumption of steel production. The nation's output of goods and services—which failed to rise in the third quarter of 1959 after five successive quarterly increases—should now rapidly reach $500 billion.

Those business analysts who, during the steel strike, viewed the near-term future with dark glasses failed to note the strength of end-product demand, even while the economy was steel-starved. For instance, look at this table:

Strength of Final-Product Demand in 1959

(Billions of Dollars; Seasonally Adjusted at Annual Rate)

	1959		
	First Quarter	Second Quarter	Third Quarter
Total Gross National Product	$470.2	$484.5	$478.6
Inventory Demand	6.1	10.4	—1.0
Final-Product Demand	464.1	474.1	479.6

Thus the outstanding characteristic of the economy, even in the disappointing, third quarter, was strength of final-product demand by consumers, industry, and government. This strength of aggregate demand is why most economists believe the recovery-prosperity trend—which began once steel production was resumed—should prevail throughout 1960, if not beyond. The major cutbacks which still continue stem primarily from inadequacies of production rather than from softening in either individual or business demand. Low levels of car production, for example, stem from shortages of critical material components rather than lack of car buyers.

Production—Oriented Weaknesses

Such limited softening in business activity as prevails at year-end is still largely the after effect of the steel strike. These weaknesses are production-oriented and should be quickly removed, provided that the flow of steel is not interrupted again in early 1960.

What will keep the economy in this prosperity phase as the artificial stimuli of replacement of steel and car inventories wears off in 1960? Every prolonged period of prosperity in the past has been built upon a high rate of business investment. There is no reason on this count to fault 1960. Business investment in new plant and equipment rose throughout the steel strike. It is scheduled to rise much further throughout all of next year.

The National Industrial Conference Board's latest survey of capital appropriations of the 1,000 largest manufacturing corporations showed a 53% hike in new investment over the same quarter in 1958. Not only was this the third successive rise in authorizations to spend, but it was also greater than the year-to-year increases of 37% and 43% posted in the first and second quarters of this year.

The advance in third quarter appropriations was more highly concentrated in nondurables, which had lagged earlier. The nondurables sector should now provide much of the upward push in 1960 outlays for new plant and equipment.

More Spending Due

The significance of this latest upsurge of approvals is that they have not yet been translated into spending. The lag between appropriations and spending ranges from nine to fifteen months. This means then that still more substantial spending increases are due at least well into the second half of next year.

Why this upsurge in investment in the face of visible excess capacity? The primary purpose is to cut costs rather than to add more capacity. The mammoth postwar investment in research and development is now paying off in an increasing flow of cost-cutting innovations.

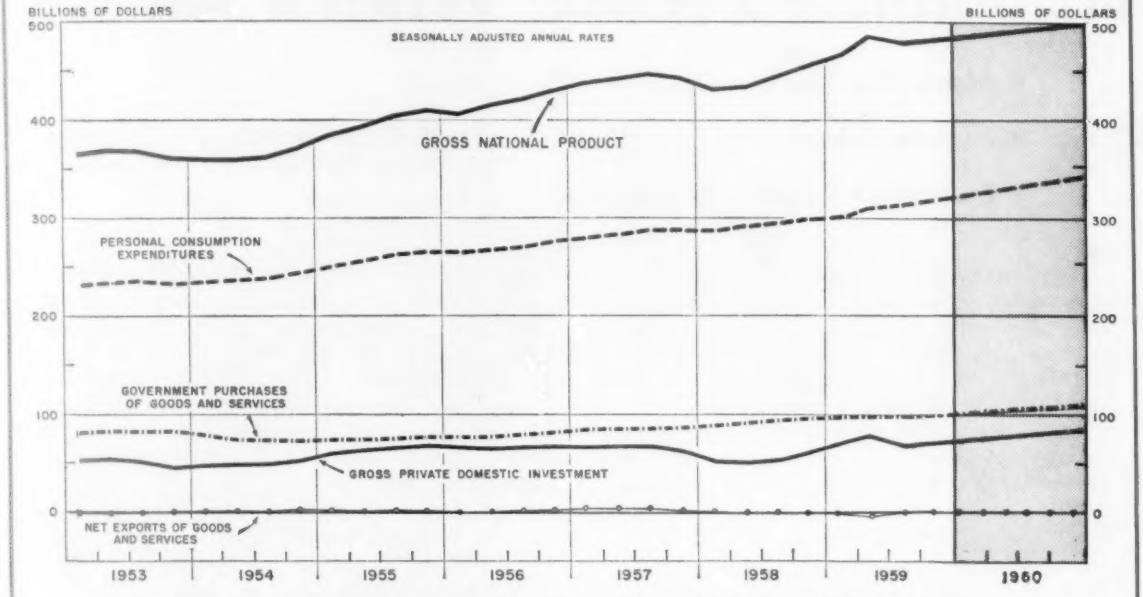
Technological changes of this sort are not likely to lead to a quick, short-lived burst of capital expansion. That was the picture when we lacked productive capacity. Instead, the current investment program should feed upon accelerated research and the growing importance of cost-cutting programs. As a result, this wave of capital goods expansion should be of greater duration and less hectic than the earlier expansions.

Still another factor which promises to give further substance to recovery-prosperity throughout 1960 is freer spending by consumers, particularly for big-tag items.

Rising Retail Outlays

The Conference Board's continuing survey of consumer buying plans indicates that consumers are highly optimistic about their prospective incomes. This, coupled with peak levels of income currently, should result in rising outlays at retail, particularly for big-tag items. The reason:

New Economic Highs in Sight for '60



All major economic barometers should reach record highs in 1960. Purchasing Magazine editors estimate that Gross National Product will top the half-trillion dollar mark, sparked by heavy spending for consumer durables, inventory accumulation, and continued high government spending.

such expenditures are closely related not only to current but also to anticipated levels of income.

Here, then, are two pillars on which further expansion throughout 1960 is built:

(1) The continuing upsurge in private investment in new plant and equipment and

(2) The prospect of rising consumer outlays, particularly for cars and electrical appliances.

Additional stimuli to expansion are also anticipated from the building up of inventories, particularly steel; rising expenditures by state and local units of government; the promise of some further modest increase in exports in the light of the continuing boom in Western Europe and elsewhere; and some relaxation of export barriers.

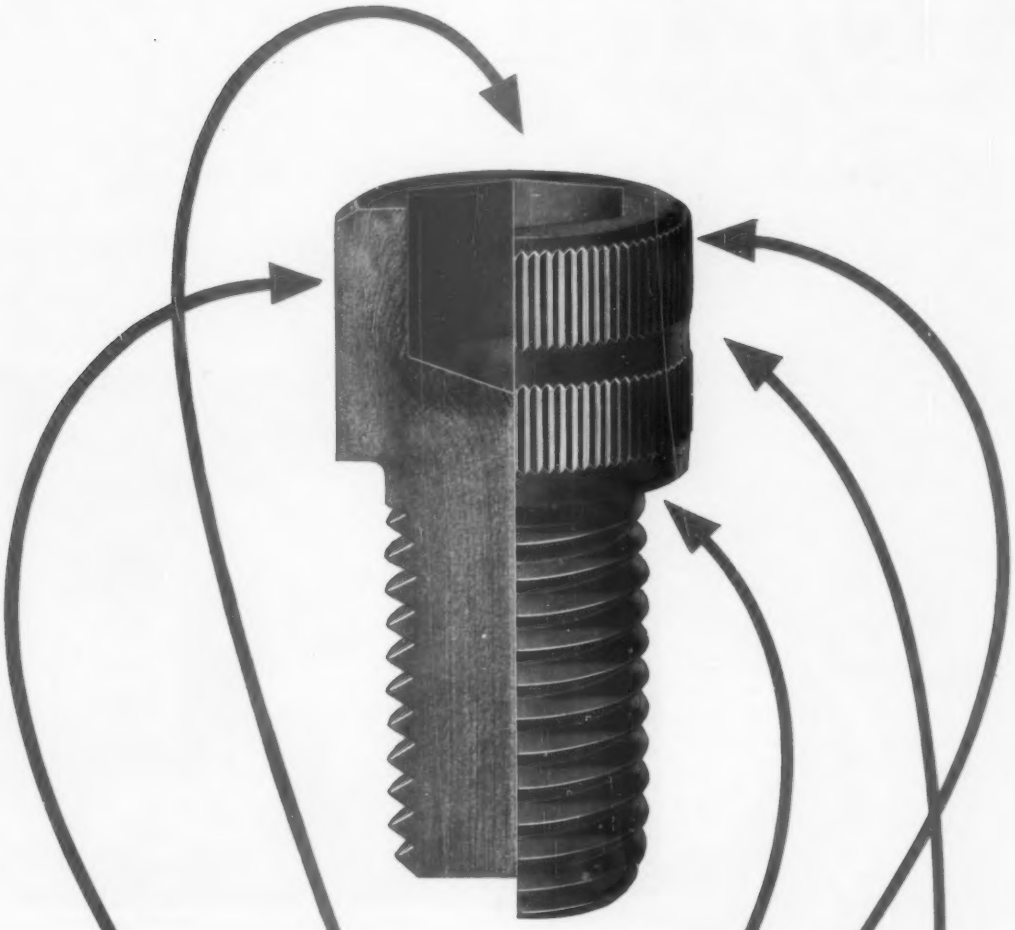
However, there are a number of problem areas that will arise in 1960. These include: tapering off in homebuilding; more intensive foreign competition and the attending loss of gold; the probable peaking out of consumer credit; steadily tighter money; and continuing softness in agricultural income.

Nevertheless. the consensus of most business analysts is that 1960 will be a year of expansion and widespread prosperity. National output should rise by about 5% or 6% during the year, with perhaps no more of a price increase than in 1959.

Now for a key proviso: We face the best prospect that we have had since the end of World War II of having prosperity and a sounder dollar in the 1960's. The major threat to the Golden Sixties—our inability to solve wage-cost-price push.

Through the steel strike we have had that threat forcefully brought home. I believe we will witness in the 1960's significant changes in public policies designed to restore a proper balance between labor and management in collective bargaining. The recent labor bill is the first such attempt to redress the balance that swung too much to one extreme in the Fifties.

Management, conscious of this change in public sentiment, has begun to resist excessive wage demands far more vigorously than in the earlier postwar inflation—particularly since it is now faced with intensified foreign competition. As a people, we have learned the hard way that key wage settlements which outstrip the gains in natural productivity are adverse to the public interest. Management that resists such excessive wage demands will be increasingly recognized as serving the public interest. It should, accordingly, be given not only the support of industry, but also that of the general public and Congress. We cannot allow excessive wage increases to undermine the best prospect since World War II of achieving sustained prosperity without inflation.



THERE IS A DIFFERENCE IN SOCKET SCREWS

Look at this cut-away of a forged socket cap screw from H-K. Notice the smooth, flowing lines of the metal fibers that give greater strength to the screw . . . look at the clean sockets scientifically proportioned for maximum strength . . . observe the controlled forged fillet under the screw head. These are features no other socket cap screw can match.

You won't see other features just as important to your production line: special analysis alloy steel heat-treated to 39-42 Rockwell "C" hardness . . . threads formed to Unified Class 3A fit . . . a new and different forging method that produces the toughest socket screws made . . . an atmospherically controlled hardening process. And behind all these features, the now famous SAME-DAY SERVICE on all standard catalog items!

Look for the difference in H-K socket screws . . . see the difference at your production line!

HOLO-KROME SOCKET SCREWS

SOLD ONLY THROUGH AUTHORIZED HOLO-KROME DISTRIBUTORS

THE HOLO-KROME SCREW CORPORATION • HARTFORD 10, CONN.

For More Information Write No. 186 on Inquiry Card—Page 32

Engine With Two Moving Parts May Power Industry, Transportation

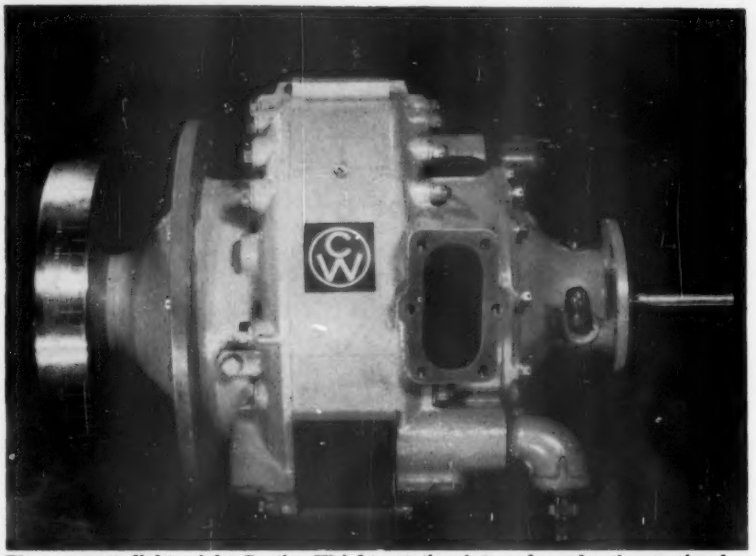
THE LIGHTWEIGHT rotating combustion engine with only two moving parts, unveiled recently by Curtiss-Wright Corp., is a major development in portable power plants that could give the conventional piston engine keen competition.

Whether it will do so in 1960 depends upon how close Curtiss-Wright is to producing a commercial model that really works. Engineers agree that the engine is based on sound principles. It is also known that others have been experimenting with similar designs for some years. Much of this work has been done in Germany, as well as in England and the United States. The C-W engine was developed jointly with the NSU Werke of West Germany.

Until Curtiss-Wright puts its engine into production, promised this year, full construction details and operating characteristics will not be known. The company has, however, shown motion pictures of a 100-hp unit being assembled, on test, and operating under load. It has exhibited both an assembled model and one broken down into its major parts.

Resembling an electric motor more than an engine, the rotating combustion engine requires no valves, springs, camshafts, pistons, or connecting rods. The two moving parts are a rotor, shaped somewhat like a spherical triangle, and a simple crankshaft on which the rotor is mounted eccentrically.

Fuel is supplied by an automotive type carburetor, compressed against the wall of the housing by the rotor lobes, and exploded by a single spark plug. The exploding gas delivers power to the shaft through the rotor and escapes through an exhaust port. There are three power sequences per revolution of the crankshaft, maintaining an almost continuous intake, compression, ignition, expansion, and exhaust cycle.



The compact, lightweight Curtiss-Wright rotating internal combustion engine has wide application in automotive, marine, aircraft and industrial fields. Shown here is the 100 hp prototype.

As there are no reciprocating parts the engine can be completely balanced and operation is therefore vibration free. It runs on standard automotive gasoline and is said to produce an extremely clean exhaust. It is quiet in operation, the unmuffled engine sounding somewhat like a large electric motor.

Curtiss-Wright has announced no price range for the engine but has indicated that it will be competitive with piston engines of like power—possibly lower in price because of its simplicity and lack of expensive materials. There are no hot spots which require the use of high-temperature metals. The 100 hp engine in cast iron weighs 100 lbs.; in aluminum, 50 lbs.

The unit first to go into production has a range from 100 to 700 hp. A unit in the 750 to 5000 hp class is also under development. The company sees a wide range of applications for the engine: in the transportation field for cars, trucks, boats, and short-range commercial aircraft; and in industry for driving compressors, generators, pumps, farm implements and earth-moving equipment.

The new engine will be produced by the Wright Aeronautical Division, Wood-Ridge, N.J., with component parts furnished by other Curtiss-Wright divisions. The company has exclusive patent rights for all applications in the U.S., Canada, and Mexico; and for aircraft uses throughout the world.

For More Information about ad on facing page Write No. 187 on Inquiry Card—pg. 32→

find out about this new science on the next three pages . . .

METALOGICS

RYERSON PLUS VALUES

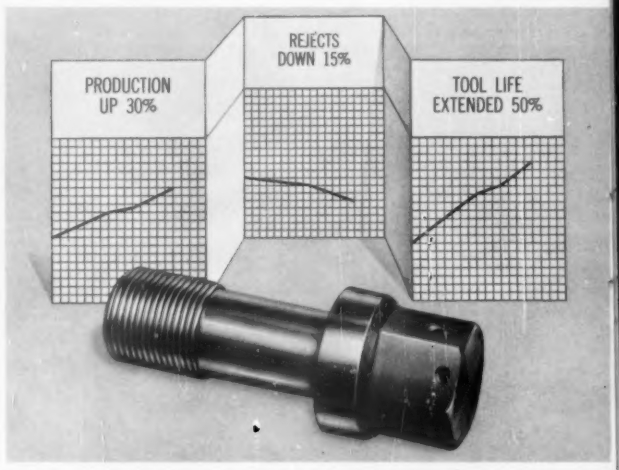
...the Ryerson science of giving optimum value for every purchasing dollar

Metalogics at work... IN STEEL

Both good steels—but only one was right for the job. Severe stresses imposed by this forming operation caused a high rate of reject for a fabricator using hot rolled plate to the usual ASTM-A7 spec. A Ryerson specialist suggested change to Ryerson welding and forming plate—a prompt solution to a costly problem.

Missile component problem solved. Titanium stringers in stainless forged bars were creating a high reject rate for a missile parts manufacturer. His Ryerson specialist recommended a switch from Type 321 stainless to Type 347. Result: the same stabilized corrosion-resistance and strength—but no titanium stringers.

The need was urgent. A breakdown was cutting output of a big paint producer, but steel to repair the break was not available locally. A call to the nearest Ryerson plant 200 miles away resulted in delivery of 100′ of bar stock at the airport an hour later. Three and one-half hours after calling Ryerson in another state, the customer had his steel.



Value analysis boosts production 30%. This was the outstanding result when a metalworking company studied and evaluated production of piston pin bolt-heads with a Ryerson representative. He recommended Rycut® 40—the world's fastest machining alloy steel in its carbon range. Other results: rejects reduced 15% . . . tool life increased 50% . . . better finish.

Metalogics at work . . . IN ALUMINUM

Furniture manufacturer saves 15¢ per unit on every chair produced. A *rolled* aluminum angle in 6061-T6 alloy was being used where strength was not an important factor. A Ryerson aluminum specialist suggested an *extruded* angle in 6063-T5 which gave all the strength needed in the application, was more easily formed, had better appearance—and reduced costs as well.

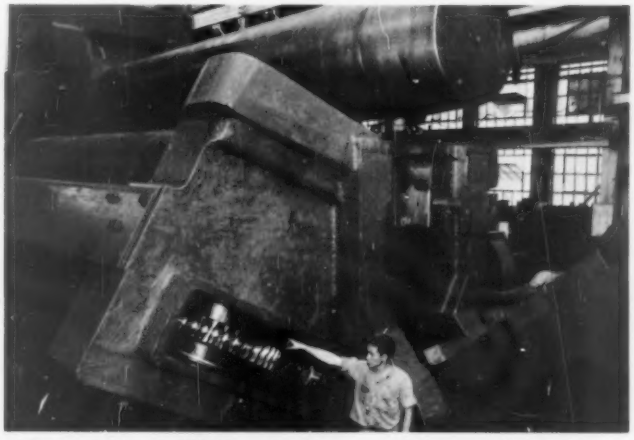
Better product appearance and a saving in material cost resulted when a Ryerson man recommended that a producer of portable coolers switch from one aluminum alloy (3003-H14) to another (5005-H14). Slightly higher structural strength was a bonus value. Unusually broad aluminum stocks and technical resources often enable Ryerson to serve in this way.

Also plus values in . . .

INDUSTRIAL PLASTICS

A leading chemical company was using a PVC pipe that included synthetic rubber for high-impact strength in producing 50% hydrochloric acid. But the acid ate away the rubber, leaving particles in the solution. The old pipe was replaced by Ryertex®-Omicron PVC, which contains nothing to contaminate the acid and has *natural* high-impact strength. Results thus far: 18 months of trouble-free service at 125° F. and maximum pressure of 40 psi.

METALWORKING MACHINERY



375-ton rolls to 7½-lb. punches . . . and everything in between. Whatever you need in metalworking machinery, call Ryerson. Over 3800 types and models available—everything from this huge bending roll to small hand punches. The Ryerson line includes machinery for bending, braking, drilling, forming, hoisting, pressing, punching, rolling, sawing, shearing, threading and welding. Ryerson also offers a complete, special line of material-handling equipment.

METALOGICS—see details of complete program on next page

METALOGICS

...how it works for you

Broadens Scope of Selection

Know a single source where you can get aircraft-quality alloys such as 9310, Nitralloy, and 4340 to A.R.T.C.-14 . . . as well as all standard commercial alloys and free-machining types? This is typical of the size and diversity of Ryerson stocks. Here, right at the tip of your dialing finger, are thousands of tons of steel and aluminum—in virtually every standard type, size and shape. Also, hard-to-get intermediate sizes and special analyses are readily available. This is true of Ryerson stocks, year in and year out—in all but periods of extended production shutdowns.

Brings Newest Developments

Remember when lead was first added to carbon steels for faster machining . . . when, a little later, leaded alloys came along? Ryerson stocked them for you first. And remember just recently when the world's fastest machining steel tubing and bars (Ledloy® 170 tubing and Ledloy 375 bars) were introduced? Again, Ryerson brought them to you first.

Gives New Measure of Quality

Quality—now there's a word that's worn thinner than an office-seeker's shoe sole. But Ryerson Metalogics has given it new meaning, with a brand-new set of rigid quality-control standards that are completely detailed and published for your scrutiny. They govern every aspect of specifications, verification, packaging, cutting and certification of all Ryerson products. If you want a tangible example of the scope of this new quality program, take a good look at Ryerson cutting tolerances. Then see if you can find any that are held more closely.

Provides Best Technical Help

"Expert" is another worn-out word we hesitate to use. But we do put at your disposal the industry's most experienced men. They're ready to give you the benefit of their nationwide, daily experience with all kinds of problems—material selection, fabrication and the ever-present specter "cost of possession." And remember, nowhere else will you find as wide a range of published technical information to help you in your metalworking operations. It's yours for the asking.

Builds Solid Business Relationship

Here's a company you should get to know better for our primary business is that of satisfying customers. And we've kept a lot of people satisfied over the last 100 years. We'd like to satisfy you, too.

Meets Most Exacting Schedules

What do you need right now . . . tomorrow . . . or in the future? Whatever you need, Ryerson is there —"the fastest with the mostest"—exactly when you need it—as you need it.

Why not discuss the exciting story of Metalogics with your Ryerson representative soon. You'll find he can help you in more ways than you might think —to meet all your requirements for steel, aluminum, plastics and metalworking machinery.

Be "METALOGICAL"—call Ryerson

METALOGICS
RYERSON PLUS VALUES

STEEL • ALUMINUM • PLASTICS • METALWORKING MACHINERY

RYERSON STEEL

Joseph T. Ryerson & Son, Inc., Member of the INLAND Steel Family

PLANT SERVICE CENTERS: BOSTON • BUFFALO • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT • HOUSTON • INDIANAPOLIS
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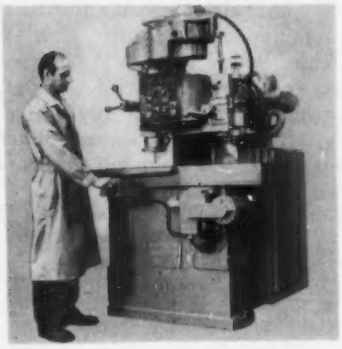
Products

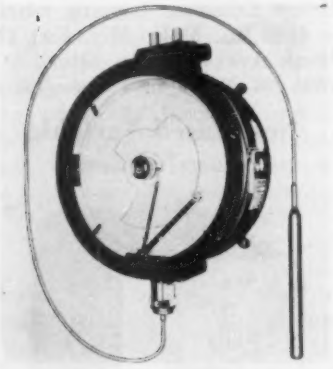
Speed and Accuracy with New Automatic Profiler



A new machine tool is designed for speedy and accurate 360 degree profile milling under tracer control. Machine follows an easily prepared sheet-steel template and reproduces complex, irregular two-dimensional shapes with the speeds, feeds and accuracy usually associated with precision, plain-milling operations. Features include overall precision, elimination of backlash, and extreme sensitivity of tracer system. 5 HP spindle drive provides 7 speed changes with a total range of 375 to 5200 rpm. **Pratt & Whitney Co., Inc., Charter Oak Blvd., West Hartford 1, Conn.**

Write No. 18 on Inquiry Card—Page 32

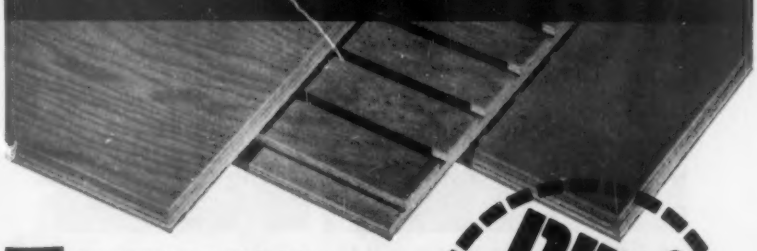
Temperature Control for Steam Heat



A new recording pneumatic temperature program control and recording instrument is particularly well adapted for use where steam is heating medium. Available in any of ten optional temperature ranges between the ex-

(*Please turn to page 80*)

FIR PLYWOOD PURCHASING GUIDE



DFPA® TESTED QUALITY

1. Insist on DFPA Grade-Trademarks

DFPA grade-trademarks attest quality, performance and value. They appear only on plywood manufactured, inspected and laboratory-tested under the DFPA quality control program to assure conformance to U.S. Commercial Standard quality requirements.

2. Choose the right grade for each job

DFPA quality-tested fir plywood comes in two types: 1. *Exterior* (waterproof glue for permanent outdoor exposure); 2. *Interior* (moisture-resistant glue) for use indoors, temporary outdoor uses and sheathing. Within each type are *appearance grades* to meet the exact needs of any given job. Most popular grades are shown below: (other grades including panels made of other western softwoods, also available)

TYPICAL USE	EXTERIOR-TYPE (Waterproof glue)	INTERIOR-TYPE (Moisture-resistant glue)
Where appearance of both sides important. Cabinet doors, single thickness walls, etc.	EXT-DFPA·A-A	INT-DFPA·A-A
Where only one side will be seen. Siding, paneling, signs, fixtures.	A-C	A-D
Special concrete form grades. Both faces sound, solid, smooth.	PLYFORM Ext. PlyForm® (B-B) (maximum re-use)	PLYFORM Int. PlyForm® (B-B) (multiple re-use)
Unsanded structural and maintenance panel. Sheathing, crating, temporary screening.	C-C	PLYSCORD PlyScord® (C-D) (also available with Exterior glue)

SIZES: Standard fir plywood thicknesses are from ¼" through ¾"; standard size is 4' wide, 8' long. Other thicknesses and sizes are also available, including "king-size" scarfed panels up to 30' and 50' long.

TEXTURED FIR PLYWOOD – Fir plywood comes in several smart textured panels for special decorative applications such as siding, paneling, displays and fixtures. These include *Texture One-Eleven* Exterior plywood (deep parallel groove pattern, shiplapped edges) and panels with attractive *brushed, striated,* or *embossed* surfaces.

OVERLAID FIR PLYWOOD – is Exterior fir plywood with resin-fiber overlay permanently fused to one or both sides of panel. *High density* is hard, glossy, abrasion-resistant (use for long-lasting signs, shelving, concrete forms); *Medium density* overlaid plywood is smooth, with texture similar to drawing paper (ideal paint base for signs, fixtures, siding).

FREE WALL HANGERS – Handsome 18"x33" wall hanger. Handy fir plywood grade-use-specification guide. Order one for everyone in your firm who specifies fir plywood. Also available, specification portfolio. Includes detailed description all grades, sizes, specialty panels, Commercial Standards requirements. Offer good USA only. Douglas Fir Plywood Assoc., Tacoma 2, Wash., Dept. 192.

For More Information Write No. 188 on Inquiry Card—Page 32

At P·I·E ... where people spell the difference!

Men like "Roundy" Miller of Kansas City are

THE BEST INSURANCE A SHIPPER CAN BUY!

For twenty-five years... over 2,580,000 miles... thru blazing heat and snowy blizzards, "Roundy" Miller has delivered the goods... in good shape... in good time... *on every run!* The personal determination and responsibility of hundreds of line drivers like "Roundy" have earned P·I·E the industry's National Safety Championship for 7 years.

These men are the best insurance you can buy!

PACIFIC INTERMOUNTAIN EXPRESS

TERMINALS & OFFICES IN PRINCIPAL CITIES. GENERAL OFFICES P·I·E BLDG., 14TH & CLAY STREETS, P.O. BOX 958, OAKLAND 4, CALIFORNIA

P·I·E Delivers the Goods... in good shape... in good time!

For More Information Write No. 189 on Inquiry Card—Page 32

Plain facts about washroom towel costs!

We have been making top quality washroom paper towels since 1925. But we know that high quality by itself will not produce the most efficient towel service.

So we combine our quality towels with the controlled Turn-Towl cabinet—to produce the perfect washroom towel combination.

Result: Excellent towels at a low service cost—with towel consumption dropping as much as 50%.

MOSINEE
Sulphate Towels
BAY WEST PAPER CO.
1100 West Mason Street
GREEN BAY • WISCONSIN
A Subsidiary of Mosinee Paper Mills Co.

For More Information Write No. 190 on Inquiry Card—Page 32

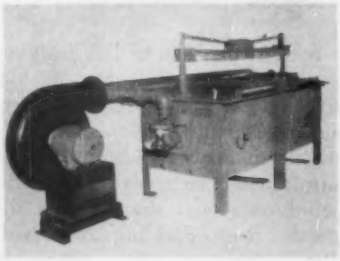
Products

(*Continued from page 79*)

tremes of minus 30 and 1100 degrees F, unit is designed to actuate an air-operated throttling valve controlling the flow of steam, water or gas. As recording instrument, control makes a permanent record of any and all variations in temperature. **Partlow Corp., 530 Campion Rd., New Hartford (Utica), N. Y.**

Write No. 19 on Inquiry Card—Page 32

Improved Double Open-Top Forge



An improved double open-top gas-fired blacksmith forge is intended for simultaneous forging and welding of bars, rods and shapes. Fueled with either propane or natural gas, forge comes up to full working heat quickly without extra preparation. Double top arrangement permits having forging fire adjacent to welding fire. Temperatures up to 2300 degrees F are obtainable. Dimensions of forge are 112 in. long, 35 in. wide and 30 in. high, floor to top. Domestic shipping weight is 4540 lbs. **Mahr Mfg. Co., 128 Monk Ave., Hopkins, Minn.**

Write No. 20 on Inquiry Card—Page 32

New Cased Variable Transformers

A supplementary line of cased variable transformers is available for portable use or for fixed mounting . Models which are stocked in conventional "overvoltage" types cover a range to 7.5 amps rating. "No-over-voltage" types which cover a range up to 10 amps can be supplied on order. "Fixed mounting" type enclosure ("E" suffix) incorporates knockouts for conduit and T-slots for hanging on panel or wall. Regular portable enclosure ("F suffix) has on-off switch, line cord, output receptacle and fuse. **Ohmite Mfg. Co., 3654 Howard St., Skokie, Ill.**

Write No. 21 on Inquiry Card—Page 32

New, Non-Chattering Relief Valve

A new relief valve for liquid service is designed to be stable and non-chattering and to provide full-rated capacity. It will not drum, chatter or hammer on any application, either by-pass or emergency relief. Unit eliminates hammering by special design of throat, seat and baffle construction; there are no extra springs or other mechanisms. Valve has been tested on fuel and lube oils, water, and hazardous, flammable liquids. Available in regular sizes from 1 to 8 in., with a bellows from 1½ to 8 in. **J. E. Lonergan Co., 211 Race St., Philadelphia, Pa.**

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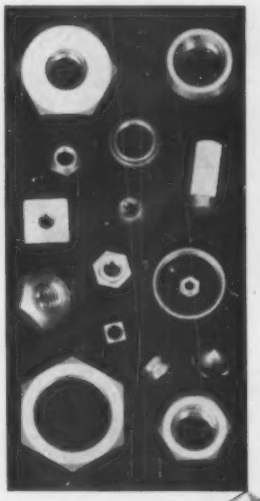
FOR READER SERVICE CARD TURN TO PAGE 32



AS SPECIALISTS IN PRECISION NUTS ... both brass and aluminum ... we can help resolve your fastening or assembly problems by supplying *uniformly accurate turned nuts to your exact specifications.* To date, we have furnished more than 3,457 different types of special or odd size nuts, including miniatures, to customers making widely diversified products. Their satisfaction with our over-all performance is eloquently confirmed by repeat orders ... plus orders for new items!

As the leading producer of turned nuts, we specialize in reliable "on schedule" deliveries and competitive pricing in addition to premium quality. That is why you get better service ... faster ... from Fischer.

FOR DETAILS, WRITE FOR CATALOG FS-1000 AND PRICE LISTS.

there's no premium for precision at

Fischer

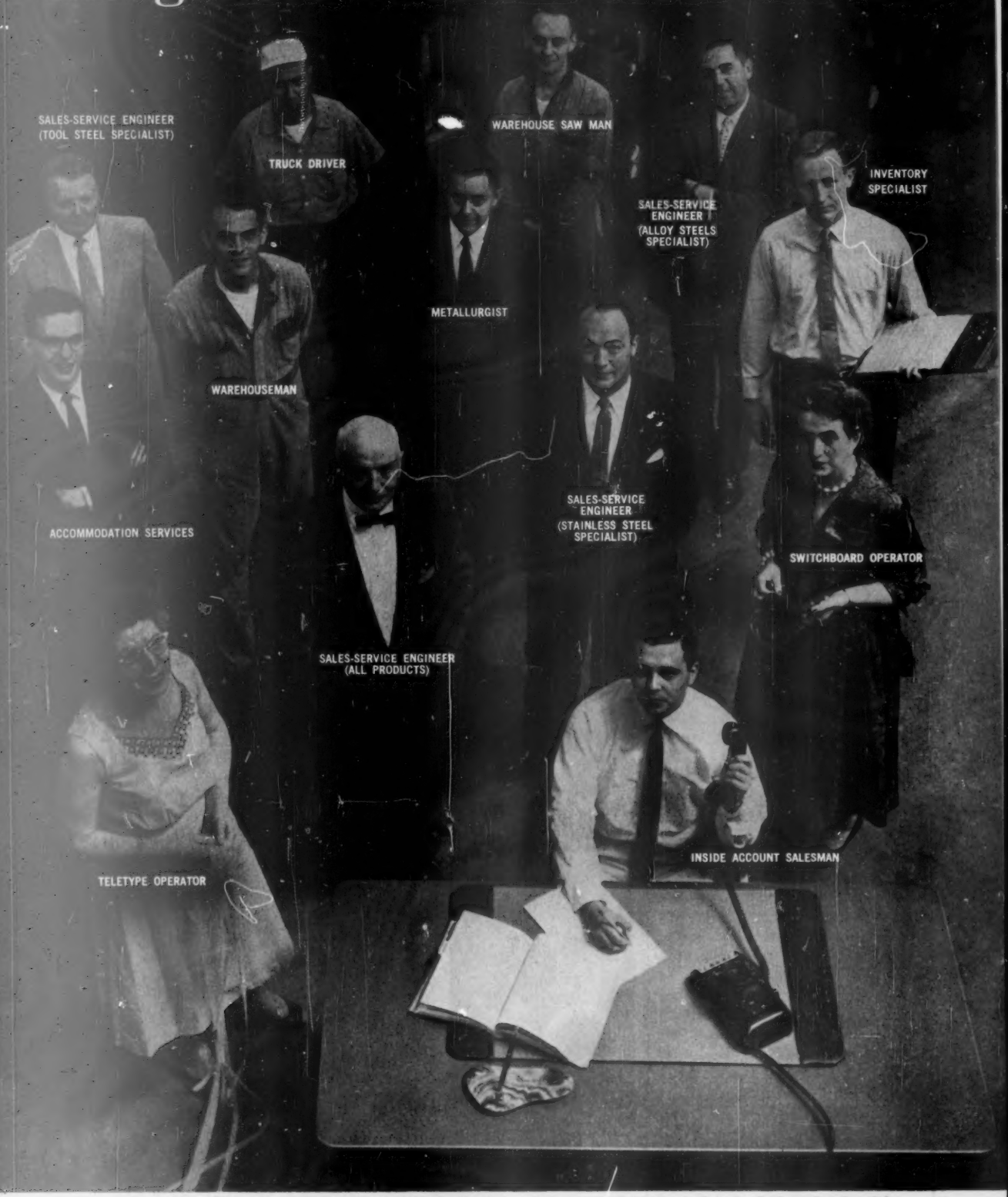
FISCHER SPECIAL MFG. CO.
471 Morgan Street • Cincinnati 6, Ohio

8815-FS

For More Information Write No. 191 on Inquiry Card—Page 32

For More Information about ad on following page Write No. 192 on Inquiry Card—pg. 32→

integrated CRUCIBLE steel service



Local Crucible personnel provide service in depth, ranging from quick reports on steels available to expert assistance with metal working problems.

Average warehouse staff is backed up by Crucible Metallurgists who, although located at mills, will travel.

maintains broad range of local customer services

—*ranges from in-stock deliveries to metallurgical research*

Here's *service in depth*, made possible by Crucible's integrated operation. It starts with in-stock deliveries of the steels you need and goes on to provide complete technical assistance for engineers, production, toolroom and maintenance men. And the entire service is available from all of Crucible's 32 warehouses —

(1) *Deliveries from local stocks* of 16,000 specialty steel items, including all grades, shapes and sizes.

(2) *Basic specialty steel data* — complete breakdowns on properties, characteristics, as well as machining and fabrication details. (Warehouse account salesmen can frequently recommend the best steel for the end use.)

(3) *Metalworking assistance* with unusual machining and fabricating problems — by trained, experienced sales-service engineers who specialize in tool steels, stainless, alloys.

(4) *Metallurgical research* — help in developing steels for tomorrow's more exacting applications from Crucible's metallurgists, who will come to your plant on call.

Here's what one purchasing agent recently had to say about this over-all service: "We need lots of help with new steels — ones we haven't used before. The reason we rely on Crucible warehouses is because their men know the answers — or can get them for us quickly."

Why not simplify your own specialty steel purchasing problems by taking advantage of this integrated service? *Crucible Steel Company of America, Dept. PA 13, Oliver Building, Mellon Square, Pittsburgh 22, Pa.*

STOCK LIST

Keeps you up-to-date on local stocks of specialty steels. Just ask the Crucible salesman to place your name on the regular mailing list.

One Source For All These Steels

Crucible metallurgists will come to your plant, if necessary, to help engineers use new steels or metals like titanium.

Sales service engineers' experience with fabricating, machining problems can solve toolroom and production problems.

Truck drivers speed orders for overnight delivery to you — or earlier if your order is an "emergency."

Teletype operators get direct reports on quantities available everywhere in the warehouse system — from Crucible's inventory-control computer room.

TOOL STEELS – Water, oil, air hardening, shock resisting, hot work, plastic and die casting steels in all forms, including bars, sheets, plates, drill rod, hollow bars, forgings and flat ground stocks

HIGH SPEED STEELS – Crucible's famous "Rex"® steels: Rex Thrift Finish rounds, hot rolled and cold drawn flats and squares, drill rod, forgings, sheets, plates, and tool bits

STAINLESS STEELS – Bars, sheet, strip, wire, cold heading wire, metalizing wire, plates, angles

FREE MACHINING STEELS – Crucible Max-el® rounds, hexagons, plates and brake die steel

ALLOY STEELS – Bars, billets, strip and sheet

COLD ROLLED CARBON SPRING STEELS

DRILL STEELS – Hollow and solid drill steels

ALUMINUM EXTRUSION DIE STEELS

HOLLOW TOOL STEEL

HARD FACING ROD

PLASTIC MOLD STEELS

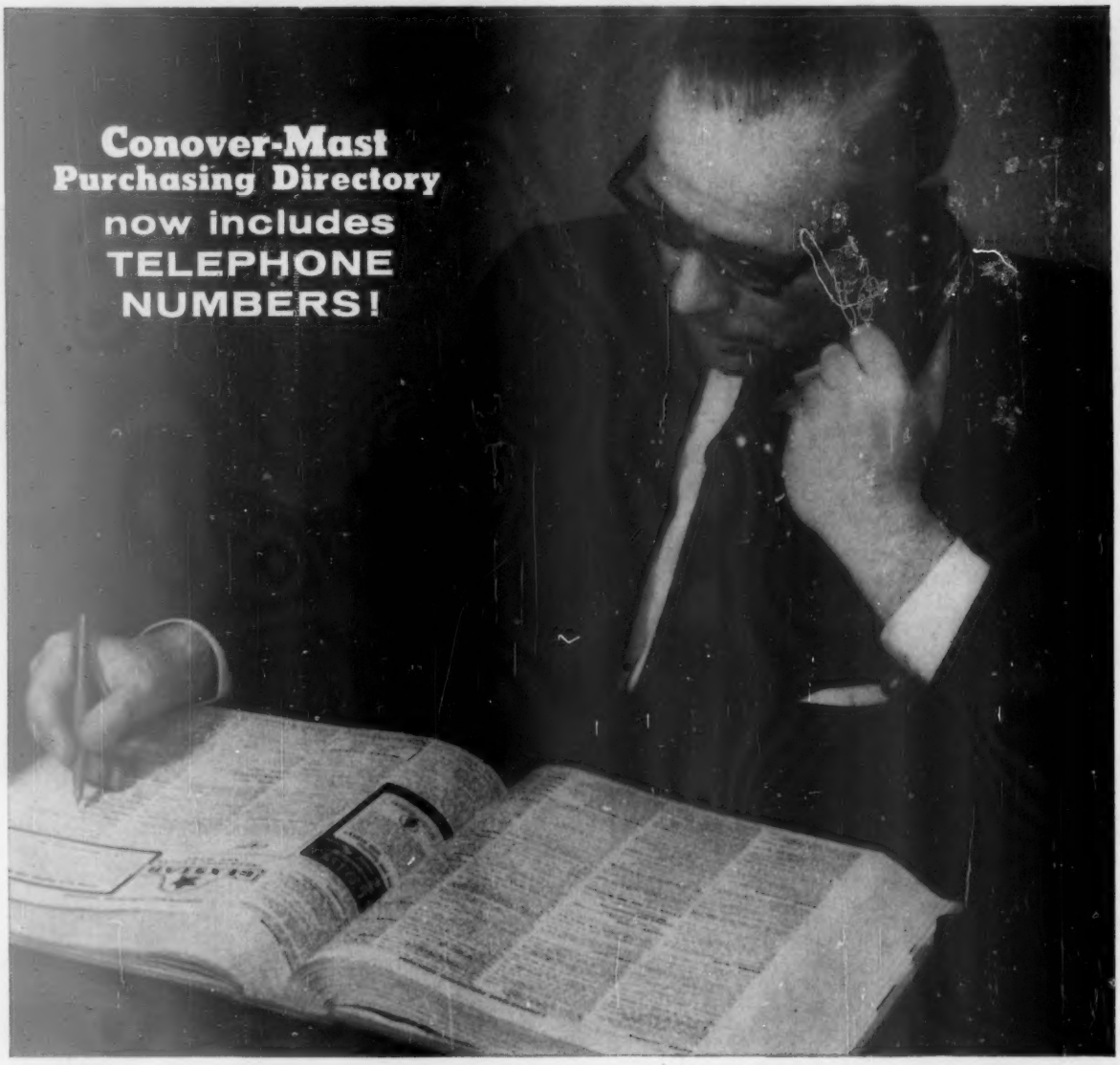
PERMANENT MAGNETS

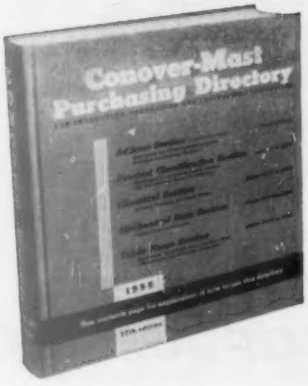
— and many others

CRUCIBLE STEEL COMPANY OF AMERICA

Branch Offices and Warehouses: Atlanta • Baltimore • Boston • Buffalo • Charlotte • Chicago • Cincinnati • Cleveland • Columbus • Dallas • Dayton • Denver • Detroit • Erie, Pa. • Grand Rapids • Harrison • Houston • Indianapolis • Kansas City • Los Angeles • Milwaukee • New Haven • New York • Philadelphia • Pittsburgh • Portland, Ore. • Providence • Rockford • Salt Lake City • San Francisco • Seattle • Springfield, Mass. • St. Louis • St. Paul • Syracuse • Tampa • Toledo • Tulsa • Toronto, Ont.

NEW! *Time Saving Service for Buyers*





Progressive Purchasing and Engineering Executives now use the telephone in buying more than ever before.

Therefore, CONOVER-MAST PURCHASING DIRECTORY has added telephone numbers of companies selling to industry.

In one convenient book you find who makes it, where they are located, and *now* their telephone number.

Conover-Mast Purchasing Directory

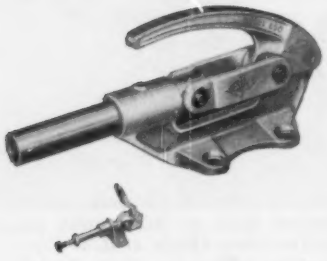
205 E. 42nd Street • MUrray Hill 9-3250 • New York 17, N. Y.

IT'S A FACT

YOU CAN DO BETTER WITH

DE-STA-CO

TOGGLE CLAMPS



BECAUSE... you can always get the right clamp for the particular work-holding job! All basic styles and over 140 different models (see typical size range in photo)! . . . Now add facts like these—DE-STA-CO has made far more Toggle Clamps . . . for a much longer time . . . for many more companies . . . with far more extensive service . . . and always at competitive prices! . . . By all means, have complete DE-STA-CO Toggle Clamp information at your elbow!

FOR MORE FACTS
WRITE FOR 44-PAGE TOGGLE CLAMP CATALOG

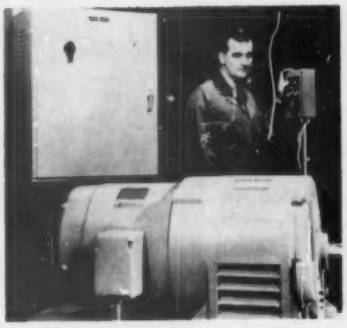
YOU CAN DEPEND ON DE-STA-CO

DETROIT STAMPING COMPANY
350 MIDLAND AVENUE
DETROIT 3, MICHIGAN
DE-STA-CO

For More Information Write No. 193 on Inquiry Card—Page 32

Products

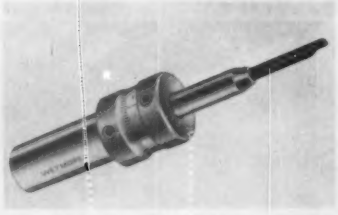
New Low-Cost Adjustable Speed Drives



A new low-cost line of eddy current coupling adjustable speed drives from 5 to 100 HP is intended for a broad range of industrial applications. Simplified design is featured, with fewer moving parts for longer service life and sharply reduced maintenance. Speed drive is offered as complete package, including drive unit, control enclosure, and operator's station. Unit is factory tested and pre-wired for quick, easy installation. **General Electric Co., Direct Current Motor and Generator Dept., Erie, Pa.**

Write No. 23 on Inquiry Card—Page 32

High Speed Carbide Boring Tools



Carbide boring tools in a new line are designed for the needs of high surface speed jig boring in small bores. Range of application is from 1/16 to 1 in. diameter. Special boring tool holders provide dynamic balance for peak efficiency at high speed, eliminating whip action due to off-center mass. Rapid, accurate and simple adjustment of holder prevents vibration. **Wetmore Tool & Engineering Co., 5320 E. Washington Blvd., Los Angeles 22, Calif.**

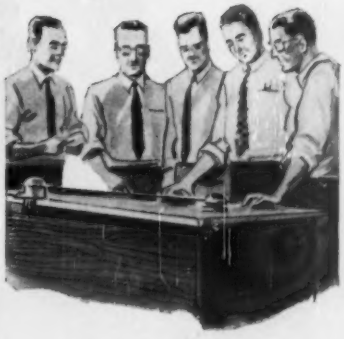
Write No. 24 on Inquiry Card—Page 32

IT'S A FACT

YOU CAN DO BETTER WITH

DE-STA-CO

ENGINEERED STAMPINGS



Your stampings cost may often be cut simply by slight changes recommended by our engineering staff. . . . Also, our engineers frequently show how secondary operations can be minimized or eliminated entirely! And real savings here are obvious. . . . Inform yourself!

FOR MORE FACTS
REQUEST OUR GRATIS ENGINEERING SERVICES

YOU CAN DEPEND ON DE-STA-CO

DETROIT STAMPING COMPANY
350 MIDLAND AVENUE
DETROIT 3, MICHIGAN
DE-STA-CO

For More Information Write No. 194 on Inquiry Card—Page 32

Office Equipment and Supplies

MODULAR EQUIPMENT provided more than 50% more desk top space for a New York engineering firm. George A. Etzel, purchasing agent of Ross Engineering, faced a space problem when planning the move into new quarters.

Nine two-man executive offices were scheduled to be set up in 11- by 17-foot areas. All men designated to occupy the offices would require more than the usual amount of desk top space since they referred constantly to blueprints.

Modular equipment, in twilight gray units with wood core laminate plastic teak tops, solved the problem. The same type of equipment was also used to furnish 10 secretarial work stations. Combination desk and typewriter space was provided in restricted areas, including four work stations in a narrow passageway.

In solving the problem, Mr. Etzel selected Art Metal Construction Company's line which permitted an equal division of space and still provided each executive with the maximum desk top space.

Greater desk top space was achieved with modular units in nine two-man offices at Ross Engineering offices in New York. In an 11- by 17-foot office, Purchasing Agent Etzel was able to place two file cabinets, one book case, two executive chairs, two visitors' chairs, plus an equal amount of desk top space.

Secretarial work stations were set up by the purchasing agent in a narrow passageway through the use of modular units, which complemented those in the executive offices.

For your company...big company efficiency and control

Leonard A. Holmes, Secretary-Treasurer, Century Boat Company.

"Moore Carbon Ready Statements help us post accounts 10 days sooner ...speed our collections"

The Century Boat Company, Manistee, Mich., designer and builder of distinctive inboard runabouts and pleasure craft, mails out over 300 monthly statements to dealers all over the country. In the past, these statements were prepared by hand from ledger books once a month. This involved going back over the whole month's records: a time-consuming operation, with the ever-present risk of copying errors. Billing was slow, and collections were held up.

Now, by using a simple, well-designed form, Century keeps each statement up-to-date, with all changes and credits listed as they are posted to the permanent accounts receivable ledger card. All records are an automatic by-product of posting, and there is no need to prove ledger and statement. A single writing on a regular bookkeeping machine does the trick. Errors in copying are eliminated. Preparation time has been cut by 16 hours each month. The form is a Moore 2-part Carbon Ready Statement with Ledger Card. As Mr. Leonard Holmes, Secretary-Treasurer of the company, says, "There's no lag in our billing now. These Moore forms help us get our statements in the mail 10 days earlier. They're more accurate, too, and easier to make up. The forms have given us real control of our accounts receivable."

There are Moore forms of all kinds, system-designed by the Moore man for every application in every kind of business. Whatever the size or nature of *your* business, the Moore man can help you get better control through controlled paperwork. Look him up in the Yellow Pages of your telephone book, or write the nearest Moore office.

Moore Business Forms, Inc., Niagara Falls, N. Y.; Denton, Texas; Emeryville, Calif. *Over 300 offices and factories throughout the U. S., Canada, Mexico, Cuba, Caribbean and Central America.*

Build control with

MOORE BUSINESS FORMS

For More Information Write No. 195 on Inquiry Card—Page 32

Here's the New, Modern Way to Make Carbon Copies!

1. Pick up the number of Sea Foam Bond CARBONSETS you need.

2. Place your letterhead on top and slip into typewriter.

3. Snap out carbons and copies are ready for routing.

SIMPLE • FAST • CLEAN

Be sure to specify CARBONSETS by name, the only one using famous Sea Foam Bond. Write on company letterhead for sample kit.

Write Dept. P-160

BROWNVILLE PAPER COMPANY
BROWNVILLE, NEW YORK

For More Information Write No. 196 on Inquiry Card—Page 32

Office Equipment

When to use **edge-punched cards** to expedite data-processing is the subject of a new, illustrated brochure published by **Remington Rand Division of Sperry Rand Corp.** It also describes one of the latest advances in paperwork automation, the Electronic Synco-Tape Typewriter.

Write No. 25 on Inquiry Card—Page 25

New steel **carts** have been designed for use in factory and office. They are a product of **E. H. Titcherer & Co., 57 Clinton St., Binghamton, N. Y.** and consist of electric resistance welded wire shelves fitted into frames. The new carts are appropriate for use as materials handling carts, library book carts or testing instrument stands.

Write No. 26 on Inquiry Card—Page 32

Publication of a new 24-page illustrated **catalog** describing features of Columbia office furniture and equipment has been announced by the **Columbia-Hallowell Division, SPS Company, Box 590, Jenkintown, Pa.** The catalog begins with a picture story of the materials and workmanship which go into the products. It also features a section on a service through which complete floor-to-ceiling office color schemes are offered. Specifications and dimensions for each of the furniture groups—as well as standard and optional features—are described in detail in the new catalog.

Write No. 27 on Inquiry Card—Page 32

Practical advantages of the larger **paper cutters** are built into the 1960 models of the manual office paper cutter offered by **Michael Lith Sales Corp., 145 West 45th Street, New York City.** The new unit was especially designed for office and for duplicating departments. Some features of the new machines are: a front wheel calibrator for moving automatically the back-guage to divisions of 1/32nd of an inch; the cutting thickness in the 18" model is 3¼" high—over a ream of paper; can cut 5000 sheets in 10 minutes.

Write No. 28 on Inquiry Card—Page 32

Pens for drawing, ruling and lettering have been developed with a single holder and seven interchangeable point sections that provide seven different line widths. A product of **Koh-I-Noor Pencil Company, Bloomsbury, N. J.,** each section has its own refillable translucent plastic ink cartridge. The entire set comes with a squeeze bottle dispenser for ink in a handy set box that serves as a permanent container for the holder and point sections.

Write No. 29 on Inquiry Card—Page 32

J. G. REYNOLDS, PRESIDENT of J. G. Reynolds Construction Company.

THIS REYNOLDS' OFFICE BUILDING comes under the heading of "Future Events."

"... WITH A NATIONAL SYSTEM, we are able to handle the Job Cost and Accounts Payable with one person instead of three."

"Our *National* System

saves us $6,900 a year...

returns 98% annually on our investment!"

—**Reynolds Construction Company,** *Santa Rosa, California*

"Our National Class '32' is the best investment we've ever made," writes J. G. Reynolds, President of the Reynolds Construction Company. "Now, thanks to our National Accounting Machine, we are able to handle an increasing volume of work with greater speed and accuracy.

"And by replacing an old hand-posting method with a National System, we are able to handle the Job Cost and Accounts Payable with one person instead of three. Thus, we have eliminated costly overtime and unnecessary salaries. In addition, the information that our National provides . . . allows us to bid more accurately on work contracts, thereby insuring us of a better profit.

"We consider our investment in National a sound one. Why shouldn't we? After all, it saves us $6900 a year . . . and returns 98% annually on our investment!"

J. G. Reynolds

President of Reynolds Construction Company

Your business, too, can benefit from the time- and money-saving features of a National System. Nationals pay for themselves quickly through savings, then continue to return yearly profit. National's world-wide service organization will protect this profit. Ask us about the National Maintenance Plan. (See the yellow pages of your phone book.)

*TRADE MARK REG. U. S. PAT. OFF.

National*

ACCOUNTING MACHINES

ADDING MACHINES • CASH REGISTERS

NCR PAPER (NO CARBON REQUIRED)

THE NATIONAL CASH REGISTER COMPANY, Dayton 9, Ohio

1039 OFFICES IN 121 COUNTRIES • 76 YEARS OF HELPING BUSINESS SAVE MONEY

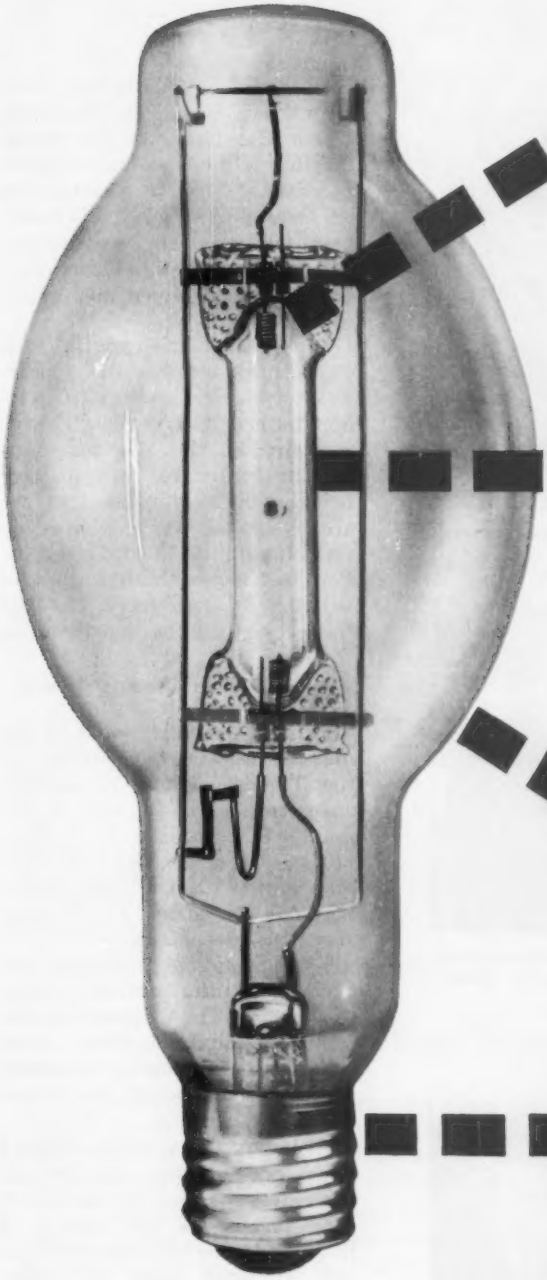
For More Information Write No. 197 on Inquiry Card—Page 32

EXCLUSIVE WEATHER LIFEGUARD™ ARC TUBES YOUR BEST BUY IN MERCURY LAMPS!

By any standard of comparison, new Westinghouse "Lifeguard" mercury lamps are the most economical choice for industrial, street, and parking lot lighting. The exclusive Westinghouse "Lifeguard" arc tubes in these lamps save you money by maintaining high initial light output longer. And, they make possible lower-cost new lighting installations.

In addition to getting more light per dollar, you save on labor and maintenance costs, too, with less frequent lamp changing. And "Lifeguard" lamps are made with famous Westinghouse "Weather Duty" bulb construction for resistance to thermal shock, moisture and all industrial fumes. New Westinghouse "Weather Duty" lamps with "Lifeguard" arc tubes are interchangeable with other types of the same wattage. Make the change today. Contact your authorized Westinghouse lamp agent or nearest Westinghouse sales office.

DUTY™ LAMPS WITH MAKE WESTINGHOUSE



New design electrodes with specially-compounded and locked-in emission material virtually eliminate light-robbing arc tube blackening.

"Lifeguard" arc tube improves lumen maintenance... 85 percent of initial light output after 10,000 hours.

First with "Weather Duty" lamps... fume-proof and moisture-proof, shock-resistant glass.

Permanent-grip silicone cement holds bases tight for the life of the lamp. Remains strong at high temperatures. No strain on glass.

YOU CAN BE SURE... IF IT'S Westinghouse

Westinghouse Lamp Division · Bloomfield, N. J.

Carolinas-Virginia Meeting—A Smash

Steak for dinner at the very festive banquet.

Greeting Governor Luther Hodges (right) are Public Relations Chairman Charles Johnson, Jr., and District Five V.P. Paisley Boney.

Governor Hodges got quite a few chuckles from the packed audience of P.A.'s and their wives.

NOTHING COULD have been finer than being in Pinehurst, North Carolina, for the winter meeting of the Carolinas-Virginia Purchasing Agents Association on Dec. 4-5. Roughly 100 members registered for the meeting but by banquet time more than 400 members, wives and guests were on hand.

Highpoint of the eventful two-day conference was the appearance of North Carolina's Governor Luther Hodges. The Governor stressed the role that purchasing executives can play in bringing new industry into the area. "Let us know where you think a profitable supply operation can be established and we will take it from there," he told the packed purchasing audience.

Johnson Gets Thomas Award

Most dramatic moment of the meeting was the presentation of the Thomas Award to capable, energetic Charles Johnson, Jr., assistant P.A. for the R. J. Reynolds Tobacco Co., and vice chairman of the Fifth District public relations committee. The Thomas Award is given each year to the most outstanding purchasing executive of the Carolina-Virginia Association. The tremendous ovation given Mr. Johnson was a sure sign that the association members thoroughly endorsed the Award Committee's choice.

Although the weather couldn't have been better and though Pinehurst—as local license plates proclaim—is the golf capital of the world—the business meetings still attracted large audiences. Kicking off the program was George Hitchings, manager, economic analysis department, Ford Motor Co. Mr. Hitchings forecast a record boom in the first half

(*Please turn to page 94*).

ROLLWAY MAXIMUM BEARINGS

. . . . . What's the limit: Heat? Shock? Speed? Or complicated radial and thrust loads?

Name the combination of requirements . . . and chances are you'll find them met by a Rollway Maximum precision radial cylindrical roller bearing. If not, then Rollway engineers will modify any factor to meet your application.

Rollers are crowned to prevent end-loading and the resultant spalling of races. Directional trueness is maintained by retainers of standard bronze or "Rollube" ferrous alloy of one piece or two piece construction.

You may wish to refer to the Rollway Catalog and Engineering Data Book when writing specifications for a high precision bearing. It contains the first listing, by any manufacturer, of the thrust capacities of cylindrical radial roller bearings. Send for it today.

ENGINEERING OFFICES:

Syracuse Boston Chicago Detroit
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Seattle Houston Philadelphia
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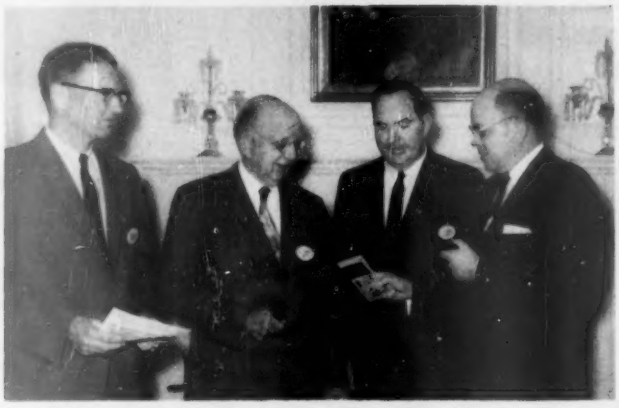
ROLLWAY®
BEARINGS
COMPLETE LINE OF RADIAL AND THRUST CYLINDRICAL ROLLER BEARINGS

For More Information Write No. 199 on Inquiry Card—Page 32

(Continued from page 92)

of 1960 with business dropping off slightly in the last 6 months. He said much of the impetus for the first half boom would stem from steel consumers' rebuilding stocks at a record rate.

Following Mr. Hitchings, Paisley Boney, vice president of N.A.P.A.'s 5th district, discussed in convincing terms, what N.A.P.A. has meant to him and to his company. Rounding out the first day's talks, N.A.PA President Tom English urged all PA.'s to take an active part in politics "to protect what we have and to regain some of what we have lost."



Getting a word in with Tom English before the meeting officially started: Newly elected C-V P.A.A. President Furman Pinson, W. G. Thomas, founder of the Carolinas-Virginia Group; and Grayson Meetze, outgoing president.

W. G. Thomas presents the Thomas Award to Charles Johnson, Jr., selected as the outstanding P.A. in the Carolinas-Virginia association for 1959. Mrs. Johnson watches attentively.

Taking time out for a short rest: J. W. Andrews, Chris Suber and Nate Dean.

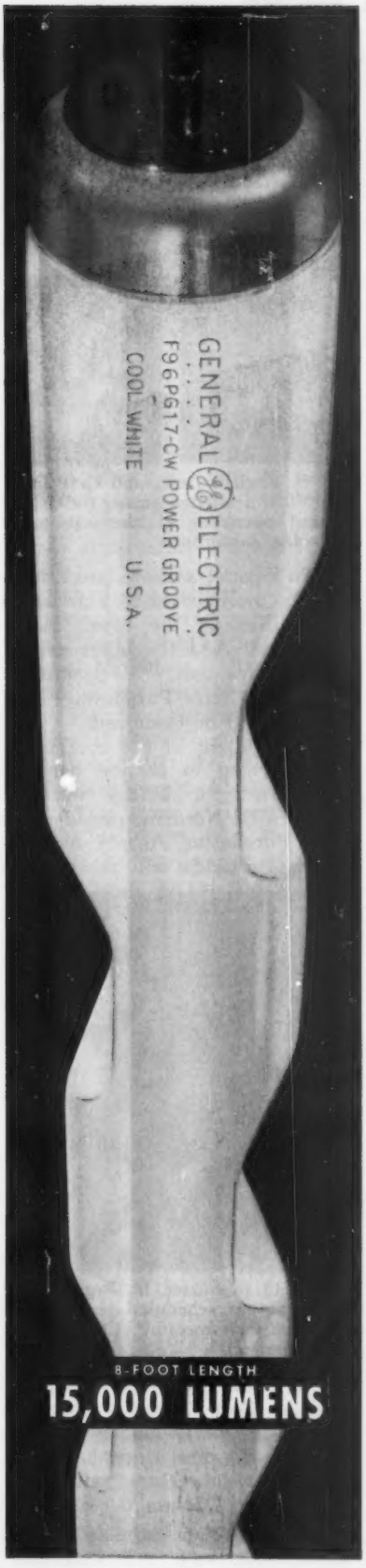
Mr. English reported that although the proposal to have a Board of Basic Policy (purpose of which is to enable N.A.P.A. to take a public stand on issues of importance to purchasing) was approved 5-4 by the districts, the program was being revised in the the hope that it will receive broader support.

Prior to Governor Hodges' address on Saturday morning, Dec. 5, there was an informative session on value analysis which centered on case history cost reduction reports. The meeting closed with a lively forum on commodities. J. M. Berry, Vick Chemical Co. discussed containers and paperboard; Charles Johnson, Jr., R. J. Reynolds Tobacco Co., covered the coal outlook; E. N. Pearce, Jr., Carolina Steel & Iron Co., talked on steel, R. A. McCuiston, Thomasville Chair Co., gave the lumber outlook; J. T. Holt, Erwin Mills, Inc., analyzed the textile market.

Elect New Officers

Elected to serve as officers of the Carolinas-Virgina Association in 1960 were: Furman Pinson, Jr., J. J. Stevens & Co., president; Hall Whitworth, Champion Paper and Fibre Co., vice president; Charles Leys. Old Dominion Box Co., secy.; Frank Campbell Jr., Celanese Corp. of America, treasurer; J. Blake Moose, Daniel Construction Co., finance chairman. Added to the board of directors were: Wallace E. Moore, Spartan Mills; Charles Goodwin, Taylor-Colquitt Co.; P. G. Harmon, Hanes Hosiery Mills Co.

W. G. Thomas, one of the founders of the Carolina-Virginia Assn., its first president and donor of the Thomas Award, announced his retirement as director of purchases, Duke Power Co. He was voted a lifetime membership in the association for which he has done so much.



Cut your fluorescent lighting investment as much as 40¢ per square foot —with new General Electric Power Groove Lamps!

- Power Groove gives lowest cost of fluorescent light for most users...
- Saves 10-30% on initial investment, alone...
- Stays cleaner, brighter longer—cuts end darkening
- Will last about 3 years in single-shift service

INITIAL INVESTMENT REDUCED—*You can save up to $4,000 on every 10,000 square feet of lighted floor area* by specifying new General Electric Power Grooves over other types of fluorescent lamps. This is based on a typical industrial area and a practical 100 footcandle lighting level which will help you get increased production through higher worker efficiency and comfort.

HOW? Use new G-E Power Grooves, the most powerful fluorescent you can buy. If you're in the midst of planning a new building, or remodeling an existing one, you'll welcome the sizeable savings in capital investment. For a given lighting level, you need fewer G-E Power Groove Lamps, fewer fixtures . . . less installation time.

COMPARE POWER GROOVE COSTS: Using average conditions, figuring the cost of the lamps, fixtures, distribution equipment and labor, here's a cost comparison of the major types of fluorescents:

YOU CAN SAVE THIS MUCH ON INITIAL INVESTMENT BY USING 8-FOOT G-E POWER GROOVE LAMPS

(Based on a desirable 100 footcandle level, at about 95¢ per square foot using Power Grooves)

	YOUR SAVINGS PER FOOT	YOUR SAVINGS PER 10,000 FT.
POWER GROOVES vs. 4′ 40-WATT RAPID START (at $1.35/sq. ft.)	40¢	$4,000
POWER GROOVES vs. 8′ SLIMLINE LAMPS (at $1.35/sq. ft.)	40¢	$4,000
POWER GROOVES vs. 8′ HIGH OUTPUT LAMPS (at $1.15/sq. ft.)	20¢	$2,000

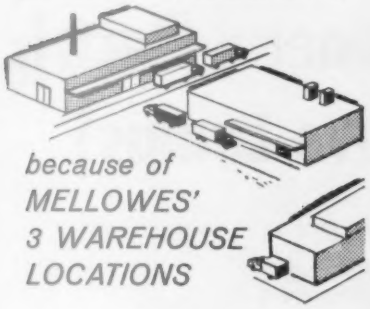
NEW G-E POWER GROOVES come in 4, 6, and 8-foot lengths—and all have the new G-E cathode shield that keeps ends brighter longer. This collects the tiny electrode particles that would otherwise be deposited on the tube wall. These lamps are interchangeable with original Power Grooves—yet they sell for the same price! For more information, write: General Electric Co., Large Lamp Dept. C-02, Nela Park, Cleveland 12, Ohio.

Progress Is Our Most Important Product

GENERAL ELECTRIC

For More Information Write No. 200 on Inquiry Card—Page 32

It's easier and less costly to buy Mellowes Lock Washers



Whether you're located in the eastern states, the mid-west, or on the west coast, you can get immediate, fast shipment of your lock washer orders from the Mellowes warehouse nearest you. Three Mellowes warehouses, fully stocked and located at strategic points, assure you of these important benefits:

• All orders for standard sizes and sections of Mellowes Lock Washers in Coin Pak, JOB-PAK, Standard Packages, or Bulk are shipped within 8 hours of the time received.

• If you are located within 500 miles of any one of these warehouses, you can expect "overnight" delivery of your lock washer orders, shipped via fast carrier, and freight will be prepaid on shipments of 200 lbs. or more.

CALL COLLECT!

All you have to do is to phone the nearest Mellowes warehouse long distance collect. Here are the numbers:

East Coast Warehouse
East Orange, N. J. ORange 6-0714

Mid-West (Home Office)
Milwaukee, Wis. COncord 4-5090

West Coast Warehouse
San Francisco, Calif. ATwater 2-2600

Mellowes warehouse locations and Mellowes policies make it easier and less costly for you to buy Mellowes Lock Washers. Give it a try! Phone collect today.

The Mellowes Company
141 E. Nash Street • Milwaukee 12, Wis.
Call Long Distance, Collect!

A. W. Mellowes,
Founder and Chairman of the Board

Note:
This is one of a series of advertisements presenting Mellowes customer-service policies which benefit you, the buyer of Lock Washers.

A9-2030

For More Information Write No. 201 on Inquiry Card—Page 32

Association News

Through the eye of PURCHASING'S Camera

Outstanding Program Slated For Florida

The Purchasing Agents Association of Florida will hold their quarterly meeting in Jacksonville, Fla. on January 14, 15 and 16, 1960 at the Mayflower Hotel.

This meeting will be the sixth annual conference. The theme will be "Purchasing-Management-Production-Sales."

Kick-off for the meeting is an Early Birds' Dinner in the East Ball Room of the Mayflower.

E. F. Andrews, Allegheny Ludlum Steel Corp. will be the principal speaker at the Friday evening banquet in Jacksonville.

T. O. English, Aluminum Company of America, president of National Association of Purchasing Agents will address the group on Saturday morning, January 16.

Other prominent speakers on the program are: S. L. Jackson, purchasing agent, Humphreys Gold Corp., vice president, Seventh District; and C. Warner McVicar, director of purchasing and traffic, Rockwell Mfg. Company, Pittsburgh, vice president, Sixth District speaking on "The Value of a Purchasing Manual to Purchasing and Management."

Kenneth D. Lozier, vice president of advertising and sales promotion, St. Regis Paper Company, New York will speak on "The Future of St. Regis and the Paper Industry."

T. O. English (left) and C. Warner McVicar are listed among the prominent speakers at the upcoming Florida conference.

Two panel sessions are scheduled. One devoted to purchasing and sales on the topic, "Deficiencies." And the other geared to management. "Management's Problems in Purchasing and Sales" will be discussed.

A highlight of the conference is expected to be the banquet scheduled for Friday evening. Walter H. Norman, president of the Purchasing Agents Association of Florida will preside. W. L. Beckham, president, Export-Import Corp., Jacksonville, will be master of ceremonies.

Kenneth D. Lozier, St. Regis Paper Company is scheduled to speak at the quarterly meeting of the Florida Association.

The after-dinner speaker is E. F. Andrews, director of purchases, Allegheny Ludlum Steel Corp., Pittsburgh.

Rock River Association Signs Hundredth Member

The growing Rock River Valley Association proudly announced the addition of its one hundredth member at a recent meeting according to Gil Morris, J. L. Clark Mfg. Co., president of the association.

Every one of the Rock River meetings draws very well, also. At the most recent meeting, for instance, practically 60 members turned out to hear Paul Farrell, editor of PURCHASING speak on materials management.

Pre-dinner purchasing forums have been proving to be a big success judging from the good attendance at the last meeting. John Stewart, director of purchases at Greenlee Bros. Co. of Rockford, gave a talk on his company's experiences with a punched tape order writing machine.

Paul Farrell told of the experiences of the editors of PURCHASING Magazine observing the growth of materials management in their travels all over the country. Mr. Farrell said that the concept of materials management is beyond the talking stage in many companies. He emphasized the importance of materials management by quoting from the words of a panelist at the St. Louis Association's annual purchasing forum. The panelist said, "It just developed in a logical way. We didn't have any special plan to create the position of materials manager," he declared "As the need grew, the job sought the man."

Chemical Buyers Plan Dual Meeting

The Chemical Buyers Group of National Association of Purchasing Agents has made plans for its annual mid-winter conference. The same general meeting will take place first in Chicago, and then in New York.

Scheduled for January 27 and 28 at the Hotel Congress in Chicago, the meeting will later move to the Hotel Commodore in New York on February 3 and 4.

The Chemical Buyers have managed to attract a rather high combined attendance record with this method.

BUNTING®
BEARING ALUMINUM BARS

have you learned what **Bunting Bearing Aluminum Bars** can do for you?

No other low priced bearing metal delivers all the many fine qualities embodied in Bunting Bearing Aluminum. Its physical properties add up to a remarkable and ideal material for most general bearing applications. Light weight is an added advantage. It machines easily and rapidly, saving labor cost. All bars are machined on all surfaces, reducing waste metal to the minimum. And it is carried in stock in 138 sizes of 13" tubular and solid bars by your local Bunting Distributor.

case in point*

Specimens of Bunting Aluminum Bearings replacing bearings of other metals which cost twice as much. No sacrifice of performance or life.

1. Cylinder gland bearing. An example of how to save money on large, thick-wall bearings. 2. A high speed 150,000 RPM bearing for turbo super charger. Intricate machining, many dimensions, close tolerances. 3. Solid gear bearing to replace roller bearing. Bunting Bearing Aluminum is ideal where thick-wall is essential. 4. This thick-wall floating rod bearing affords an attractive economy in material cost, and an additional value in light weight.

MACHINE SHOP SERVICE . . . Small lots of special design bearings, not obtainable from stock, can be procured immediately from fully equipped machine shops through all Bunting Branches. The wide range of sizes of Bunting stock cast bronze and sintered bronze bearings makes the alteration of a stock item to a special bearing easy and economical. Bunting Cast and Sintered Bronze and Bunting Bearing Aluminum Bars provide the material for special sizes and designs which cannot be made from stock bearings. Your local Bunting Distributor can arrange for such work.

Ask for catalogs . . .

No. 158—Complete listing of sizes of Bunting Cast Bronze and Sintered Bronze Bearings and Bars, and Bunting Bearing Aluminum Bars. Pocket size edition.

No. 258—Complete listing of Cast Bronze Electric Motor Bearings for all makes and sizes of electric motors.

No. 46—Technology of Bunting Bearing Aluminum. A technical treatise on the composition, machining and use of this new bearing metal. Ask your local Bunting Distributor.

The BUNTING Brass and Bronze Company • Toledo 1, Ohio

Branches in Principal Cities

BEARINGS, BUSHINGS, BARS & SPECIAL PARTS OF CAST BRONZE, SINTERED METALS OR ALUMINUM ALLOYS

For More Information Write No. 202 on Inquiry Card—Page 32

FAIRFIELD FACILITIES ... at Your Service

Gear Balancing ...

Left—High accuracy balancing of rotating parts, including unusual off-center and counterweighted designs, can be handled rapidly and efficiently with the aid of this ingenious machine which utilizes stroboscopic light to locate the unbalance, an electric meter to measure the amount of unbalance, and a drill, mounted integrally, to remove indicated amount of metal for desired balance—followed by immediate inspection—all completed in a single handling.

Below—Other examples of specialized equipment "at your service" at FAIRFIELD.

Gear Tooth Honing ...

Bolt Hole Honing ...

—to give you

1. TIME SAVINGS
2. LOWER COSTS
3. BETTER GEARS

At Fairfield, YOUR GEARS are in the hands of specialists equipped with every facility for handling production RAPIDLY, EFFICIENTLY, and ECONOMICALLY. Special or unusual requirements in design, size, finish, tolerances, processing, materials, and heat treating are often "standard" at FAIRFIELD.

Fairfield's gearmaking facilities save capital investment for many builders, large and small, of power driven equipment. At Fairfield, you get the benefits of high production rates and big volume output in an ultra-modern plant designed exclusively for producing fine gears. *Become a Fairfield customer; it pays!* CALL OR WRITE.

FAIRFIELD
MANUFACTURING COMPANY, INC.
2321 S. Concord Rd. Lafayette, Indiana
TELEPHONE: 2-7353

Gears and Differentials For FINE GEARS *Made to Order for:*

TRACTORS • HEAVY DUTY TRUCKS • AGRICULTURAL MACHINERY • POWER SHOVELS AND CRANES
MINING MACHINES • ROAD GRADERS • BUSES • STREET SWEEPERS • INDUSTRIAL LIFT TRUCKS

For More Information Write No. 203 on Inquiry Card—Page 32

Industry

Motor Manufacturer to Expand Research

The Louis Allis Co., Milwaukee, Wis., manufacturer of motors, generators, and adjustable speed drives, has announced the construction of a new research and development center in **Greendale, Wis.** The building, which will be staffed by 100 engineers and technicians, will double present research facilities. The company will expand its development activities to include electronic and nuclear fields.

Du Pont Expands Methylamine Production

A new plant at **Belle, W. Va.,** will more than double **Du Pont's** present output of methylamines, basic chemicals used in the manufacture of agricultural chemicals, rocket propellants, fibres, dyes, and pharmaceuticals. Completion is expected in the first quarter of 1961. The new plant will make possible better service to Du Pont's Eastern customers and contribute to the downward price trend of methylamine and its derivatives.

Kaiser Announces Continuous Cast Aluminum

The Kaiser Aluminum and Chemical Corp., Oakland, Calif., has developed a new patented process for the continuous casting of aluminum slabs which will mean substantial savings in material costs to fabricators.

Known as "K-Slab" the material is being cast in thicknesses from ⅜" to 2", widths from 6 to 12 inches, and in lengths from 12 to

240 inches. It is available in the 1100 series of alloys and in the higher purity grades. The product is expected to result in economies in impact extrusion slugs and electrical busbars.

General Mills Buys Magnaflux Corporation

General Mills, Inc. with headquarters at **Minneapolis, Minn.** has acquired the business and assets of the **Magnaflux Corp.,** manufacturer of non-destructive testing equipment. Magnaflux will operate as an independent and wholly-owned subsidiary of General Mills and will continue in business at its present location in **Chicago, Ill.**

Besides milling flour, General Mills produces grocery products, livestock feeds, organic chemicals, and electronic and electro-mechanical systems.

Book Review

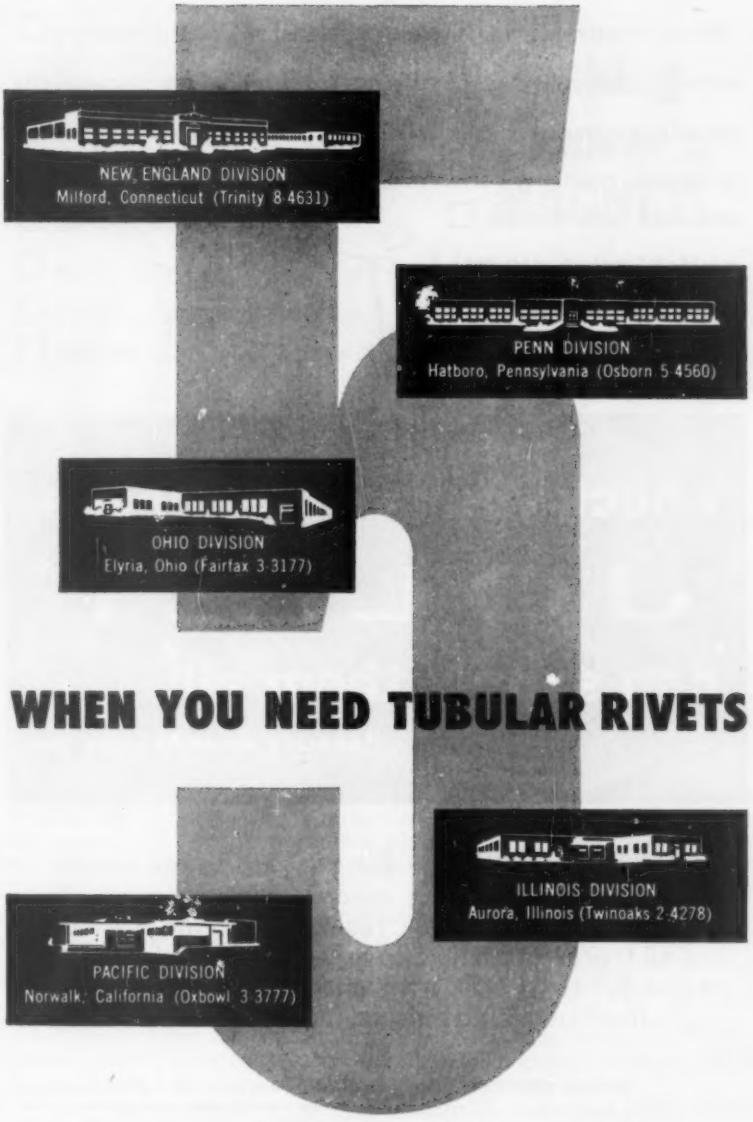
Practical Design of Sheet Metal Stampings

By Federico Strasser

Chilton Co. $10.00

This book is written primarily for the engineering student and other would-be designers of sheet metal stampings. But it might just as well have been written for the diligent buyer of stampings. A good buyer knows the details of the manufacturing process by which the products he buys are made. Stampings buyers who read this book will pick up a lot of information that will help them do a better job. Not only will they be able to deal more intelligently with suppliers but they will also be able to work with their company designers and help steer them away from shapes and sizes that will be costlier than anticipated.

The book is not particularly big (175 pages) but its 21 chapters and 555 illustrations can be extremely helpful to the buyer of metal stampings that wants to do a better job.



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MALLEABLE BEVEL WASHERS ☐ MINE ROOF WASHERS ☐
MALLEABLE ROUND WASHERS ☐ EXPANSION PLUGS ☐
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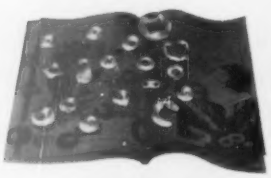

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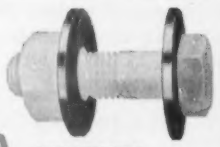

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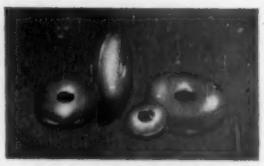

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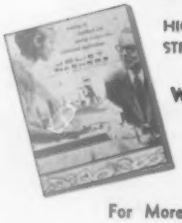

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Purchasing's Part In Marketing

(*Continued from page* 63)

Industrial products which are mass-produced and distributed are priced in a similar fashion. For example, raw materials, components, or maintenance, operating and repair (MRO) supplies which are produced to common industry, government, or professional standards, can only be priced to market levels. More complex industrial products present additional problems. Frequently, customers seek special features or adaptations of a standard line of product. Although a market level exists for the standard line, no such level exists for the special application. Again, a standard product — for example, high-priced equipment or apparatus—is sold so infrequently, and over so dispersed a geographical area, that it is difficult to determine just what the market level really is. Under these circumstances, pricing policy tends to combine aspects of pricing to a market and pricing from cost. Products produced to unique customer design or specification, are estimated from cost, and negotiated by buyer and seller.

However, no price can be established in a vacuum. **Inevitably, the pressure of the customer and competition will compel even the specialty supplier to direct his pricing more to external than to internal considerations. Certainly this is the case for standard products—consumer or industrial. The market determines the price, and the seller must meet it to stay competitive. His costs are dictated by the price, rather than his price being estimated from his cost.**

Ed. Note: The second part of Mr. DeRose's article will appear in our January 18 issue. It will deal with the Distribution and Sales, Service, Advertising and Public Relations aspects of marketing.

Purchasing Must Analyze Values

(*Continued from page 66*)

they are forced to end their thinking, to crystallize decisions, and to move on into production in too short a time. Functions of a product may be accomplished by using ideas, knowledge and methods available at the moment—but at a cost two or three times that of a simple, more reliable alternate.

5—Following habit patterns. Most day-to-day and hour-to-hour actions are largely controlled by habit. Most actions are habits, slightly modified.

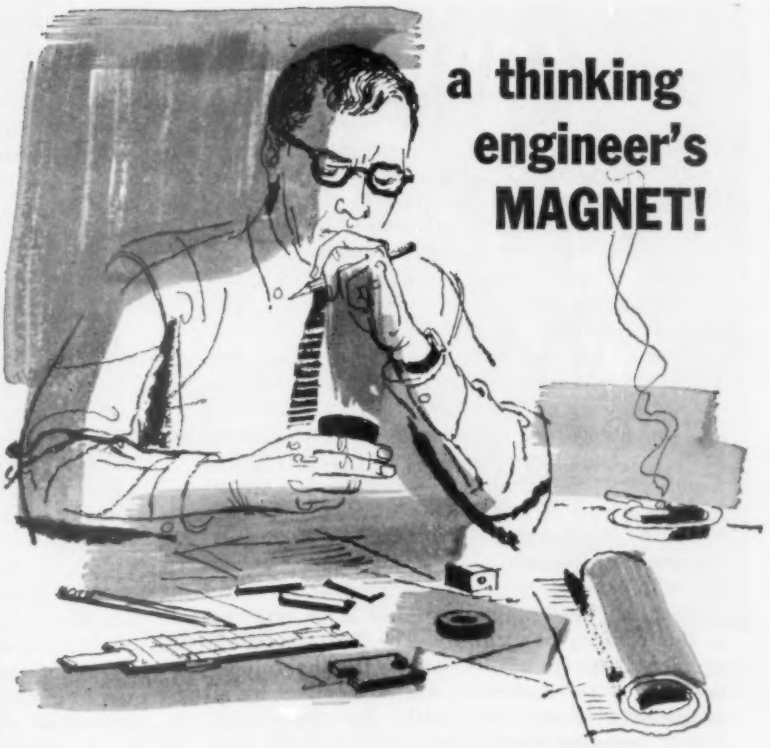
The best way to move from habitual solutions of problems to better, more economical, more appropriate solutions is again to illuminate the situation by specific pertinent knowledge and examples from different areas where similar or identical functions are accomplished through different habit patterns. Here again, the purchasing man has the wide open door and can make as much of this as his knowledge, his understanding of his management, and his enthusiasm for the job permit.

6—Influence of attitudes. Attitudes, which are predispositions always to react to a given set of circumstances in a given manner, perpetuate repetitious acts and promote decisions against better solutions.

The purchasing agent, with desired functions clearly in mind, will transmit these to competent suppliers who in turn will provide tangible alternates. These will better, more reliably, and less expensively accomplish the functions.

In all of these areas, the opportunities for purchasing's contribution stand out. Here are the extras—here are the plusses for purchasing.

Using these opportunities, the purchasing man becomes a player who may make a single, fan, or make the home run which wins the game for the team.



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What's Ahead For Purchasing?

(*Continued from page 56*)

tions in this country, think for a moment of those other countries throughout the world where living standards are low and wages are lower. Imagine if you will the monstrous pressures for improvement that are building in the minds of foreign workers. They will try to get the improvement they want with tactics our unions abandoned many years ago; there will be strife and bloodshed in some of the major world commodity markets.

I need use but one example—copper—and point out that Rhodesia and the heretofor placid Belgian Congo are now seething with revolt and will be impossible to control with traditional methods. The disruption in world markets and in availability of copper will have us in serious trouble in years to come.

Moral—the Purchasing Agent of the '60s must become his company's chief materials planner. He will have to be a serious student of world political and social affairs, and of labor relations in this country particularly. The Materials Management Concept of one man with the full responsibility for materials, will be adopted by all progressive companies, with the Purchasing Agent assuming this responsibility in most cases.

The cost of purchasing will be under close scrutiny and control. Under a continuing cost-price squeeze condition, management will take a penetrating look at their mounting indirect costs, of which purchasing is a part. While the sheer increase in the volume of purchasing activity will justify more personnel, it will no longer be a simple problem of adding warm bodies. The buying job will be a more challenging one, a more technical one and a more creative one. It will simply have to be done with fewer people but with better people. Here again the challenge to purchasing is very clear. The opportunity to achieve true buyer professionalism is at hand.

Buying is a creative and profit making job. It demands a buyer of technical competence, with a wide but penetrating knowledge of materials, with a pronounced analytical ability and considerable skills in the area of human relations and persuasion.

The objective of the job is to reduce the cost of the company's products through value analysis and negotiation. To water down the responsibility with routine and clerical duties is a prostitution of a good man's abilities. For every working hour that a creative buyer spends pushing a pencil his company has lost thousands of dollars in cost reduction. Ways must be found to free this man from the burden of unnecessary routine and clerical activity, so that his full talents can be brought to bear on the creative job at hand.

This can be done and done profitably without even the benefits of automation equipment. It

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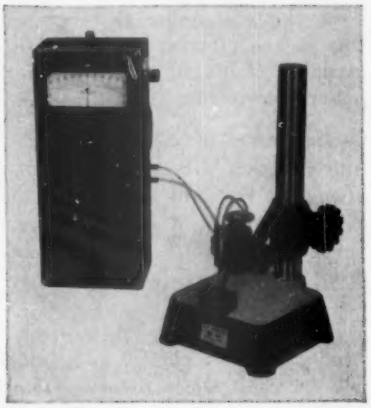
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requires only a thorough analysis of each buying job in terms of its creative component and its routine and clerical functions. These latter can then be delegated to an efficient, small clerical staff which can reach a high degree of competence in processing paperwork, confirming the buyer's decisions. This requires changing old habits and practices for the distribution of business, requires pre-planning of action in the event of price change and source change, and the standardization of many practices and procedures. But it can be done, and it is worthwhile doing it, for it is the first step toward automation of the clerical and routine purchasing functions.

This is the answer to performing the job with less people and with better people. It does not necessarily require hiring new buyers, because a man naturally becomes a better man and a better buyer when he can spend 80% of his time on the creative, value analysis, cost reduction and negotiation areas. Take the pencil out of his hand, and the chances are he will become a negotiator instead of a clerk.

These then, are the areas of attack and the opportunities for the Purchasing Agent of the 60's.

In material costs, the opportunity for greater technical involvement, more profitable influence on the product and its costs.

In material planning, the opportunity to assume the top responsibility for his company's materials management.

In costs, the opportunity to do a bigger and better job at lower cost, through buyer professionalism.

The opportunities are here—now. All we need is the courage, the enthusiasm and the energy to grab them and run.

FOR READER SERVICE CARD TURN TO PAGE 32

Over 50 years of concentrated, specialized experience assures you of a WRM Nickel Silver that will perform exactly as you want it to . . . under your tools and in your product. You'll get individual attention and prompt shipment, too.

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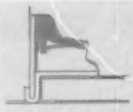
Seams are lap-joined and electrically welded into durable "one-piece" container capable of standing up to rough service.



2. "SHOCK-RIM" BOTTOM
Can bottom is raised 5/8" up into can body to provide protective rim around base of can.

3. DOUBLE WALL FLAME ARRESTERS
Provide a durable double barrier. If inner wall is damaged, outer wall provides protection until unit is replaced.

4. MECHANICALLY JOINED FILL SPOUT
Spout is "clinched" and soldered to top section of the can to withstand strain of repeated opening and closing.

5. LEAKPROOF SPOUT SEAL
Spring operated cap has ball and socket joint assembly to assure uniform, self-adjusting, liquid-tight seal of special leak-resistant gasket.

6. QUICK-ACTING DISPENSING VALVE
Convenient hand operation gives fast, positive control while pouring. Instantly shuts when pressure is released.

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Handle design shields dispensing lever against accidental opening from shocks or bumps.

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When you are considering the purchase or specification of Flammable Liquid Safety Cans, investigate the "hidden values" you get in Protectoseal Products. Compare them, point by point, with any other can and you will see why they are the quality standard of the industry.

Protectoseal Safety and Storage Cans are made in a wide range of sizes and types. They are stocked in strategically located Protectoseal Warehouses and Service Centers for quick delivery.

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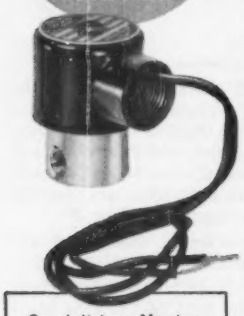

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Small, but with more strength in the Marsh manner. Coils never overheat. Entire assembly leak tight. Remarkably quiet operation. Cleanable without breaking connections. Used in any position. Bodies either brass bar stock or 18-8 stainless steel. All moving parts stainless. Underwriters' approved for use on oxygen and hydrogen and as safety valves.

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Marsh Instrument & Valve Co., (Canada) Ltd., 8407 103rd St., Edmonton, Alberta, Canada, Houston Branch Plant, 1121 Rothwell St., Sect. 15, Houston, Texas.

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Mop it on...

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CINDET does more cleaning with less effort and less material; works in hard or soft water.

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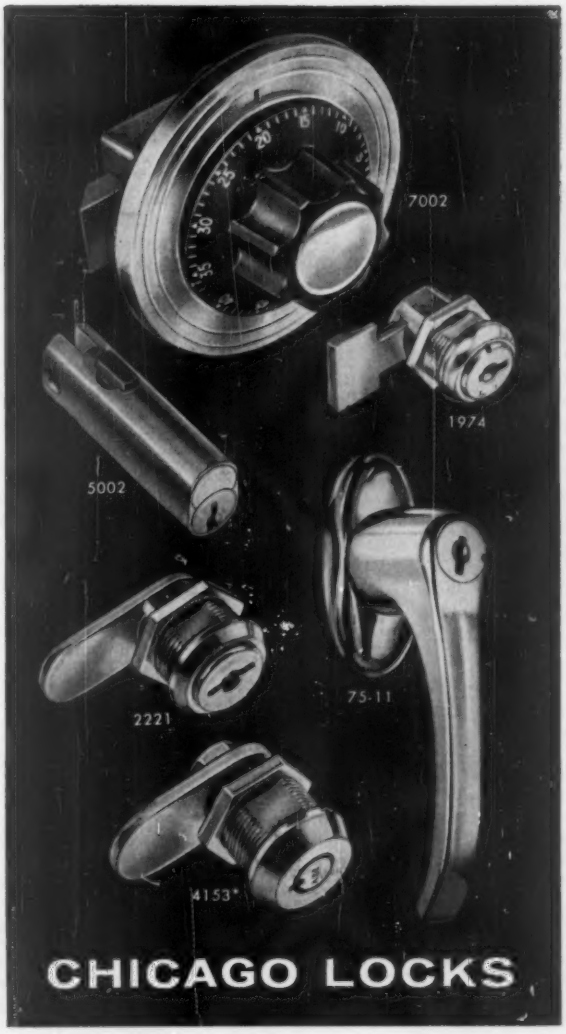

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Employment Service

PURCHASING AGENT

Age 30-50 with 5-15 years experience in all phases of project procurement, including foreign experience. Knowledge of French or German desirable. Prefer degree in general engineering or economics or marketing with foreign trade credits. Work will require travel, from home office location to develop sources, prices, and to purchase when required equipment, machinery, and supplies for construction of plants at foreign locations. Contact J. F. PRITCHARD & CO., 4625 Roanoke Parkway, Kansas City, Missouri.

Experience: Fourteen years in engineering and value analysis work in one of country's leading corporations. Heavy experience in preparation and teaching value analysis with group that pioneered the technique. Will fit well in new or well-established program. Top references.

Education: B.S., E.E.

Will relocate.

Write: Box 465

Experience: Double responsibility as purchasing agent and production ctrl. mgr. in a screw machine shop employing 300 people, for 14 years. Experiences in ferrous, nonferrous, aircraft quality alloys, cutting tools, extrusions, castings, forgings, electronic components, weldments and plastic molded parts. Systems and articles published; member of N.A.P.A.

Education: 2 years of specialized business adm.—Systems and Procedures Seminar. High school education from Europe.

Will relocate.—If favorable Midwest preferred.

Write: Box 491

Experience: Young Canadian—complete office experience, including management, accounting & cost accounting. Purchasing agent & traffic manager for 8 years with steel fabricating firm. Ambitious for better future. Present position limited.

Education: H.S. & Bus. course.

Will relocate. Calif. area preferred.

Write: Box 493

Experience: Five years experience (two firms) in industrial management, with emphasis in purchasing and production control of both consumer hard goods and soft goods.

Education: B.A., M.A., with additional night school courses in prod. mngmnt. and bus. adm.

Will relocate. Prefer Chicago area.

Write: Box 494

Experience: Eight years purchasing experience, including expediting, inventory control and traffic; buyer of automotive hardware, refrigeration, rubber parts, metal fabrication, aluminum spinnings and stampings, some capital equipment. Have set up perpetual inventory control, and had some budget experience. Age 29.

Education: Currently attending evening classes at univ. Will graduate June 1960—Bachelor of Science, bus. adm. mngmnt. major.

Will relocate. Prefer Western Pa.

Write: Box 495

Experience: Eighteen years in purchasing, all types of electrical equipment including raw material. Now purchasing agent with knowledge of inventory control, warehousing and administrative procurement.

Education: High school and business administration.

Will relocate.

Write: Box 497

Experience: As materials manager with custom electronics manufacturer, direct twenty-four persons in purchasing, inventory and production control, traffic, receiving, stores, expediting. Twelve years diversified experience in industrial and communication systems procurement. Ability to evaluate, analyze problems, devise systems and procedures, negotiate contracts, direct value analysis, budget planning, standardization and cost control programs.

Education: Two years college in bus. adm., N.A.P.A. courses.

Will relocate.

Write: Box 498

Experience: 35 years with work clothing mfg. 6 years experience as purchasing agent. Have figured factory costs, payroll, inventories, and have charge of inventory control. Have had supervisory experience in office and factory and have kept corporation books.

Education: Courses in accounting and English at university.

Will relocate: If within Northern Ind., Southern Mich., Eastern Ohio, or Eastern Ill.

Write: Box 100

Experience: Four and one half years purchasing large national corporation—two and one half years buyer in general office. Two years plant purch. agent. Well versed in buying MRO supplies, office supplies, construction, packaging, raw materials. Prior experience in sales, sales promotion, accounting and office management.

Education: Univ. Grad.—majors in accounting and management.

Will relocate.

Write: Box 499

Experience: Printing purch. exec.—Sheet and rotary for multiple business forms and commercial printing. Heavy experience buying paper and one time carbon. Know problems of rotary. Enjoy this work. Will produce through hard work based on thorough experience. Can train personnel. Active in trade groups. Member of NAPA.

Education: 1 year college. 3 years traffic mgt. 1 year purchasing and related studies.

Will relocate.

Write: Box 496

Experience: Three years supervising technical buying team. Well versed in value analysis, learning curves and cost breakdown analysis. Experienced with ASPR Regulations, C.P.F.F. and weapons system type procurement. Duties provided excellent opportunity for personal contact with management personnel of many national firms. Project, liaison and development engineering experience.

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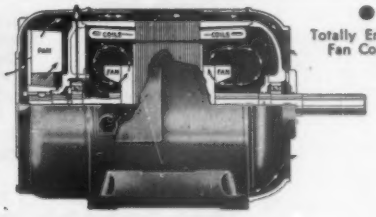

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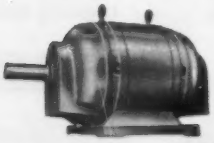

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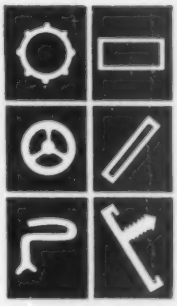

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with

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Quick Break Switch

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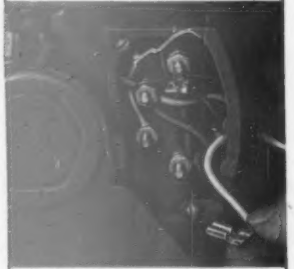

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Brass tabs on terminal studs permit quick, easy connection of leads . . . cut wiring time to speed assembly line production. Simply press the lead receptacle on to the stud—a positive connection is assured.

Pack more power into less space . . . give long troublefree service . . . are easy to hook up

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Get these motors from leading distributors in your city, or from Wagner Sales Offices in 32 cities across the country. Your Wagner Sales Engineer will be glad to help you select the right motor for your application. Wagner Bulletin MU-217 gives full details on Capacitor-Start Motors.

Wagner Electric Corporation

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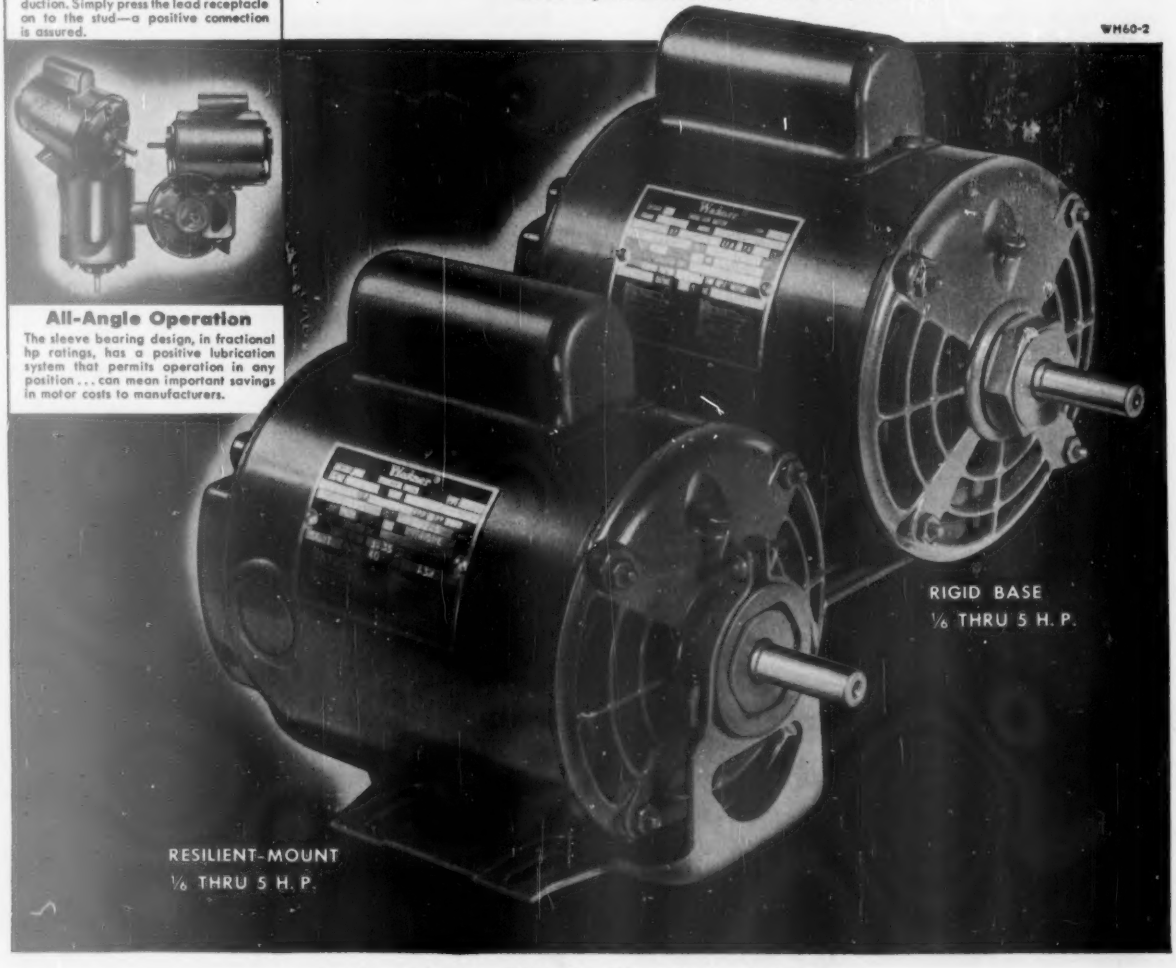
WH60-2

All-Angle Operation

The sleeve bearing design, in fractional hp ratings, has a positive lubrication system that permits operation in any position . . . can mean important savings in motor costs to manufacturers.



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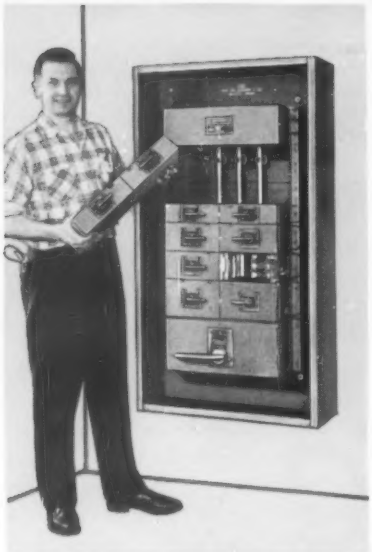
EXACTLY THE PANELBOARD YOU WANT

Right Off Your Square D Distributor's Shelf!

In our contracting business, we find QMB PANELBOARDS are just the thing for heavy industrial jobs. The switches are heavy-duty horsepower rated and they plug in just like plug-in duct units or drawout air circuit breakers. The switch unit I'm holding is a twin 60 ampere 3-pole unit, rated 600 volts. We picked up the entire panelboard this morning from our local Square D distributor's stock to use on a 480 volt job. *We'll have it installed and wired by tomorrow afternoon—and no overtime.*



Notice that this 240 volt switch is much smaller than the 600 volt unit. That means we can put more circuits in the same size panelboard. Since Square D started making these new smaller units, we've been using QMB on all our commercial jobs. The interiors and boxes are the same for both 240 and 600 volt panelboards. That means one stock can work for both. *We can get the complete panelboard from our local Square D distributor the same day the job develops.*

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For additional information
write Square D Company, 1601 Mercer Road, Lexington, Kentucky

SQUARE D COMPANY

wherever electricity is distributed and controlled

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For More Information about ad on following page Write No. 153 on Inquiry Card—pg. 32→

For 99 out of 100. . .

Selection of Stainless Steel Valves can be as simple as selection of Bronze and Iron valves

HOW to keep it simple? Don't let the wide selection of stainless steel alloys "throw you"!

Most of the alloy specs were developed to meet certain highly specialized and rather uncommon needs. Only 1 out of 100 valve users can make practical use of many of the alloys. *Actually, just two or three of the different available alloys will give a big majority of valve users all they want and need.*

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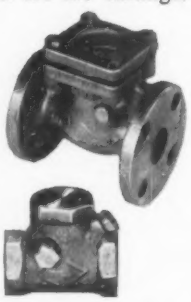
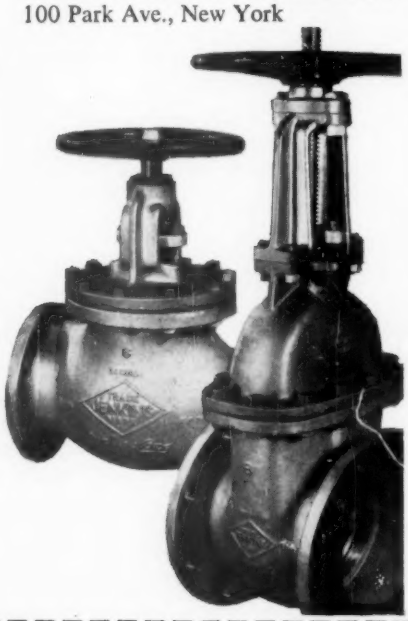


Specify "*Jenkins*" as well as the metal alloy to assure fullest satisfaction. Your Jenkins Distributor has patterns and alloys to satisfy most industrial needs. Of course, they meet valve industry specifications and the high standards established by leading users of stainless steel valves. Jenkins Bros., 100 Park Ave., New York



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